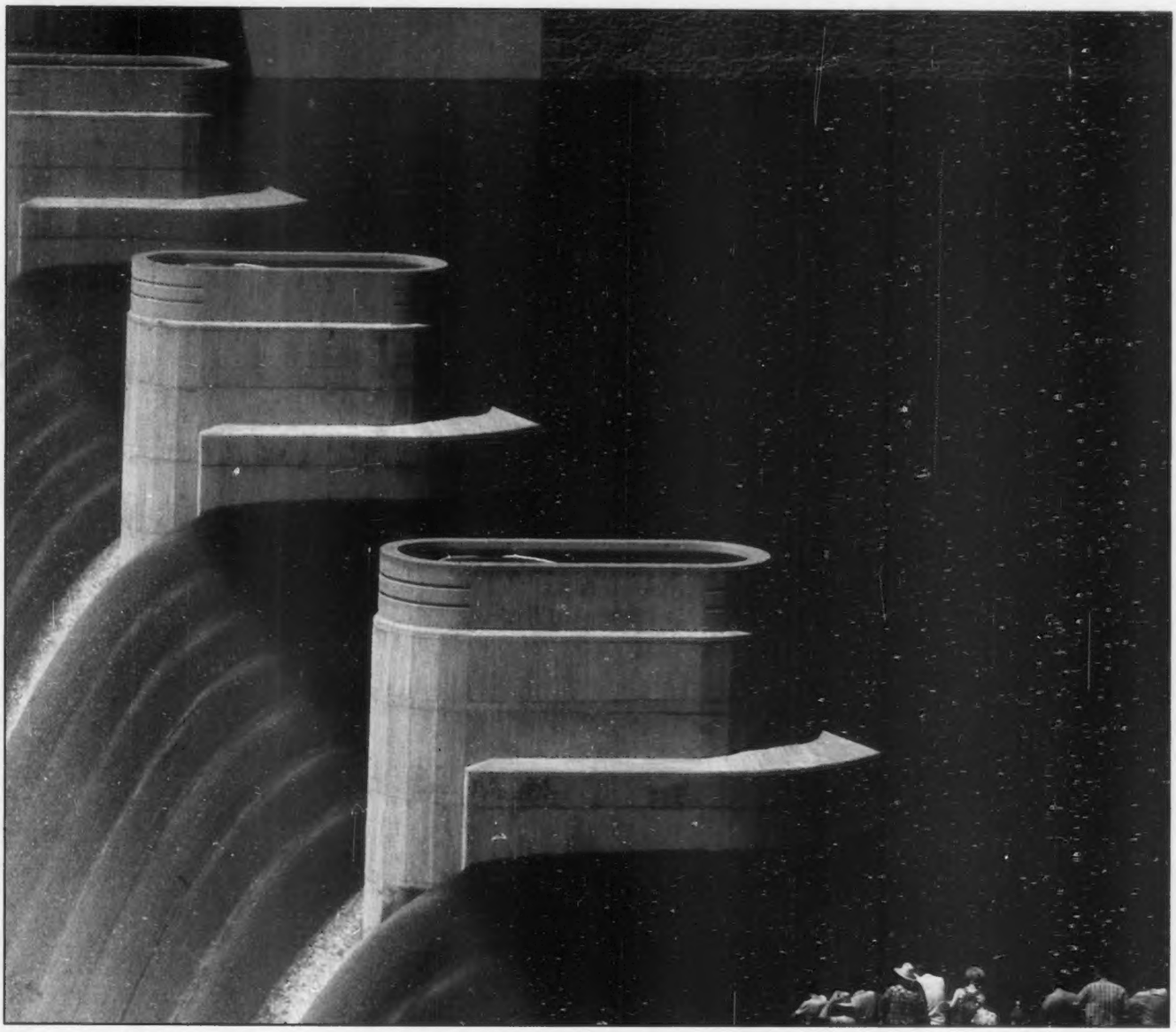
American West

The land and its people

July/August 1984 $3



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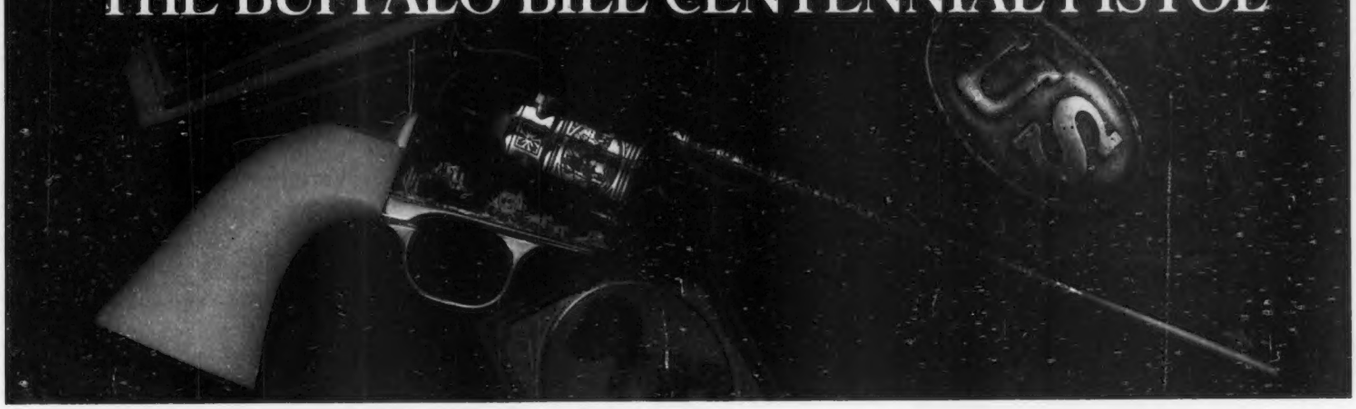

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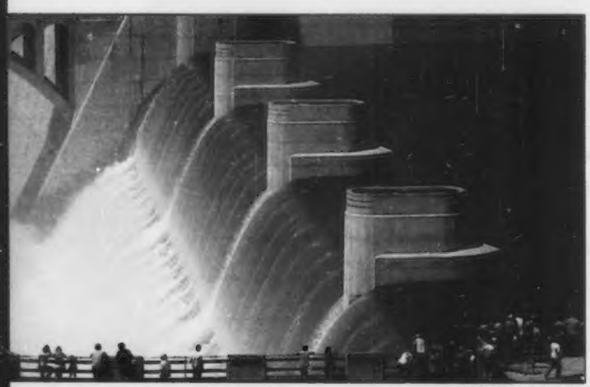

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Cover

"There's something peculiarly satisfying about building a great dam," remarked Frank Crowe, superintendent of construction on monumental Hoover Dam. "You know what you build will stand for centuries." Pioneer man accepted many challenges in the westering move across our land; none was more bold than the damming of the Colorado River with a magnificent structure that demanded vision, enthusiasm, and derring-do of men who risked their lives to make the vision come true. Our stunning cover photograph depicts the strength and beauty of floodwater breaking over the Dam's spillway during July 1983. Turn the pages for our exciting story of the building of Hoover Dam and of the men whose skill and sweat made this marvel, from the highest boss to the workers who muscled out muck from the prehistoric canyon floor.

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My name is Ted Nicholas. Ten years ago, after successfully launching 18 corporations myself, I wrote a book called *"How to Form Your Own Corporation With out a Lawyer for Under $50."* It's become one of the best-selling business books of all time, helping more than 650,000 to incorporate easily, at minimum expense.

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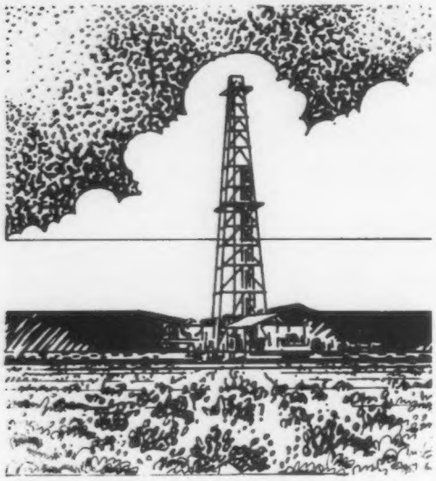
View from the West



I can still see him from the high-sashed, wood-framed window with the big glass panes. I can still see him coming up the walk. Already out of his black car (all cars were black then after the war) and striding toward the school, about to liberate me from the morbid routine of interminable lessons, bells, the smell of wood pencil sharpenings, paste pots, and floor wax and the drone of my teacher's voice.

My father was a mechanical engineer, and he unexpectedly detoured by my grade school that day to take me along to the oil fields where he was called on to help solve some problem or other or to be on hand at the momentous event of bringing in a new well.

The number of occasions in those busy years that he had the chance to take me along can't be more than a handful. But to me—a child growing up in a booming Gulf Coast Texas (in the late 1940s and early 50s)—those days, and especially the flare-lit nights on the oil rigs of south Texas salt domes, remain among the strongest memories of my childhood and of my father. He was a man of singular authority who could walk up and liberate me from the oppression of a local school district and deliver me into the real and supremely exciting world of men at work.

The world of men at work was only a decade or two out of the crushing unemployment of the Depression and just a flash beyond the end of World War II and the flood of returning GI's, all anxious to make up for lost time and to get their piece of the action.

America the strong, America the winner of the war was on the move again across her own lands—expanding into the "empty" quarter, westering once again into lands opened up by such behemoth projects as the building of Boulder Dam (see cover story), and loving every minute of it. Of the building of Boulder Dam, Theodore White, then a reporter for *Harper's* magazine, wrote: "It is an extraordinary existence out there. The men work with an enforced intensity and play with hilarious looseness. Their existence is a continued thrill and centered about the callous, cruel lump of concrete at the bottom of the canyon. And they love it. . . . To them it assumes a personality and they are devoted to it."

My father and the strong hands who joined him on the long-legged rigs that walked across Texas in a constant cloud of hot vapor and a cacophony of clanging metal pumped together on the same handle of industry as the men who toiled on the floor of the Colorado River canyon. They were strong. They were sure. And they knew they were right.

The drill stems they relentlessly turned into the black shale beneath the smooth, south Texas salt domes or drove into the hard rock of the Colorado River bed were returning America to prosperity. America loved them and they loved America.

There was nothing soft or wishy-washy about those men or their time. Oil coming out of the ground meant nonrationed gasoline in the tank of the new car everyone had waited the whole war to buy. The "cruel lump of concrete at the bottom of the canyon" meant controlled water for irrigating the richest agricultural lands in the world and electricity for the people who moved there and to the Western cities that grew faster than ever.

America was still the better part of a generation away from even remotely seeing the industry of these men in terms of waste, energy shortages, acid rain, the destruction of the West's wild places, and urban blight. America then was as enthusiastic and as energetic as the little boy looking out the window of his elementary school about to be liberated by his engineer, builder, hero father—a land, a purpose, a man who could make all things right.

If we see things from a different point of view today, if we see much of what our fathers and grandfathers created as an exercise in nest soiling instead of nest building, we have, no doubt, found a new perspective.

We've also lost something, and what we've lost cannot be seen, cannot be measured, cannot be analyzed as we seem to relish analyzing all things. It is the thing that created the leisure that affords us the luxury of being full-bellied, warm, well-housed, well-traveled, enlightened conservationists.

It is our history, and it is a history of exuberant men who loved their work, their nation, and their time. Can we say as much of ourselves?

Tom Pew

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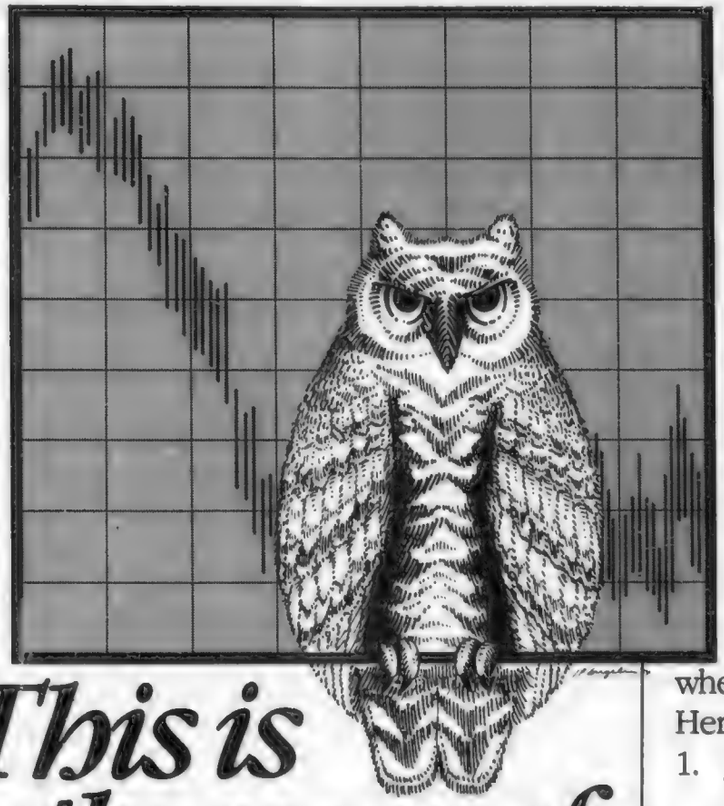

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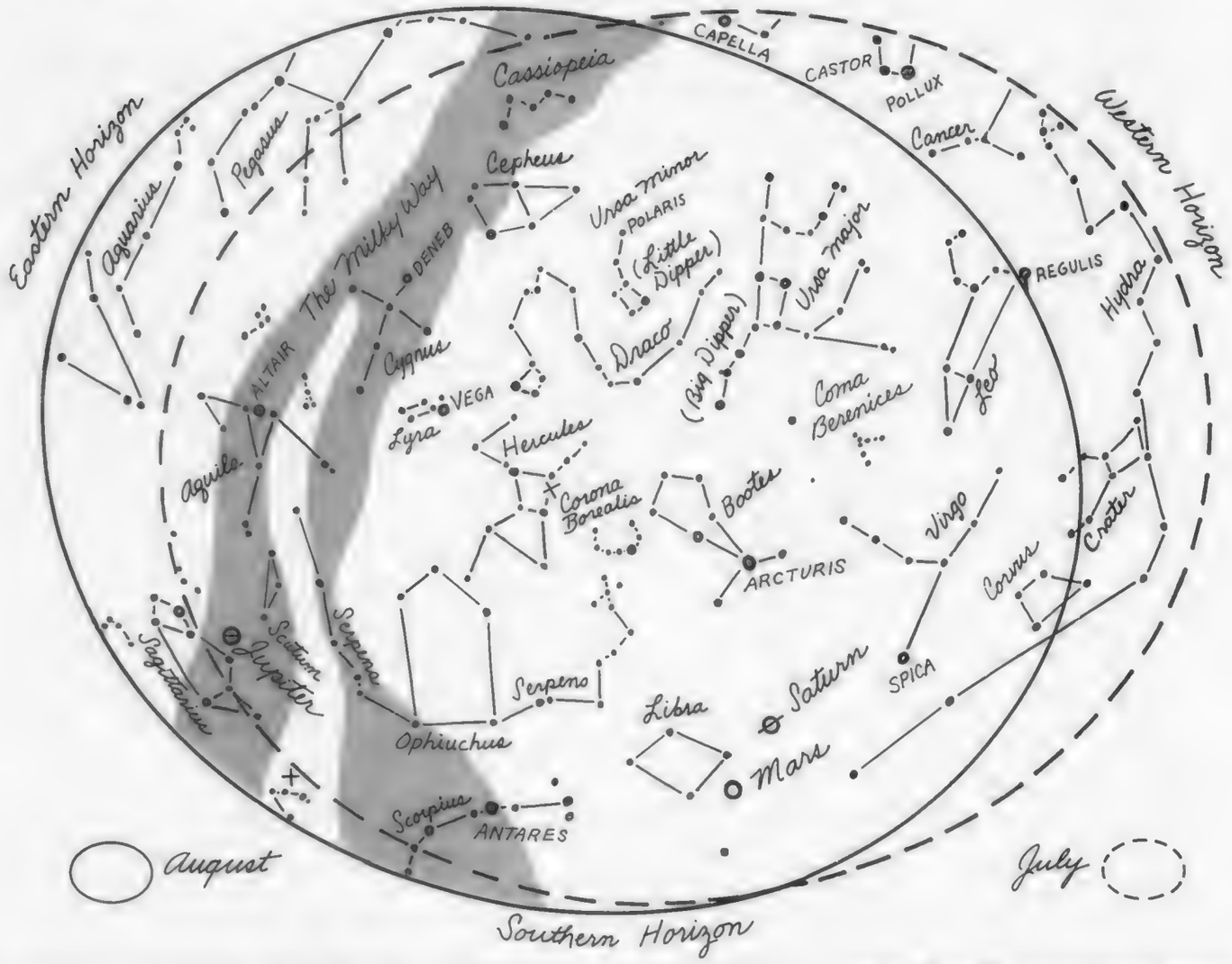
Western Skies



Summer Stargazing

by O. Richard Norton

The summer is an excellent time to stargaze and to begin a study of the heavens. The weather is warm, the nights are usually clear, and we are often on vacation in remote areas far from disturbing lights of the city. With this issue of AMERICAN WEST magazine, we begin a new adventure to explore the skies over the American West. To act as your guide, I have prepared a road map of the stars much as you would see them on a clear, dark, moonless night. It is a unique map, for, unlike other sky charts you may have seen, this one covers the sky over a two-month period, in this case, July and August. The only important difference between the heavens seen from month to month is that the stars show a steady progression toward the west. That is, they rise about four minutes earlier each night which amounts to two hours every month. In two hours, the earth turns 30° which means that stars just rising on the eastern horizon at, say, 8:00 P.M. on July 1 will rise two hours earlier on August 1. So, by 8:00 P.M., these stars will be 30° high in the east or an equivalent of sixty moon diameters from the horizon.

USING THE MAP

Now let's look at the star map. Notice that it is made up of two overlapping ovals. The broken-line oval is the sky for July, and the solid-line oval is the sky for August, both seen at 8:00 P.M. The crescent-shaped segment next to "eastern horizon" made by the two map overlays is that 30° segment I mentioned that represents the two-hour difference in rising time of the same stars on July 1 and August 1. Notice also an identical crescent next to "western horizon." The stars in that segment are visible in July but set before the sun sets in August. Although the map has been prepared to show the sky accurately as seen from a latitude of 40° north, it works just fine for all latitudes within the borders of the continental United States and Hawaii. If you are located south of 40°, you will see the southern stars a little higher above the horizon while the constellations in the north will be lower in the sky. The shapes and forms, however, will be the same regardless of your location. You will notice, also, a little distortion of the constellation patterns along the southern horizon due to the type of map projection we are using.

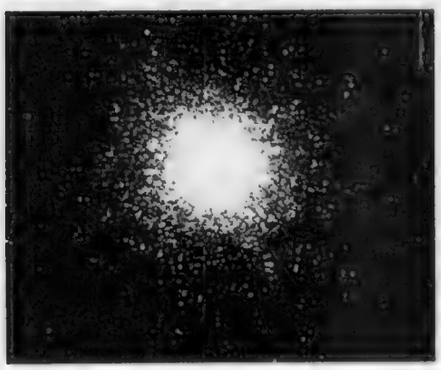
The best way to begin your study of the constellations is to locate a familiar group like the Big Dipper which in July is in the northwestern sky at 8:00 P.M. Once the Dipper is located, use this figure to orient your star map and proceed to the Little Dipper with its famous star Polaris, the north star. From these two groups, expand your search to adjacent constellations. It's best not to try to find too many constellations in one evening. This can be confusing. Simply pick out two or three an evening and review them nightly before proceeding to others. With some diligence, in less than a year's time, you will learn to find most of the brighter constellations. It won't be long before you will be greeting them like familiar friends as they return to decorate your sky.

WHERE ARE THE PLANETS?

These two months find three planets high in the early evening skies stretched across the zodiac. The ringed planet, Saturn, is farthest west between Virgo and Libra. Mars is very close to Saturn in Libra and can easily be recognized by its orange color. At this time Mars is closest to Earth and is at its brightest. Jupiter, the giant planet, can be seen rising at sunset low in the southeast in Sagittarius. Venus is too close to the sun to be seen easily in July and August.

USING YOUR BINOCULARS

If you have a pair of binoculars, a wealth of celestial treasures can be viewed. In a dark

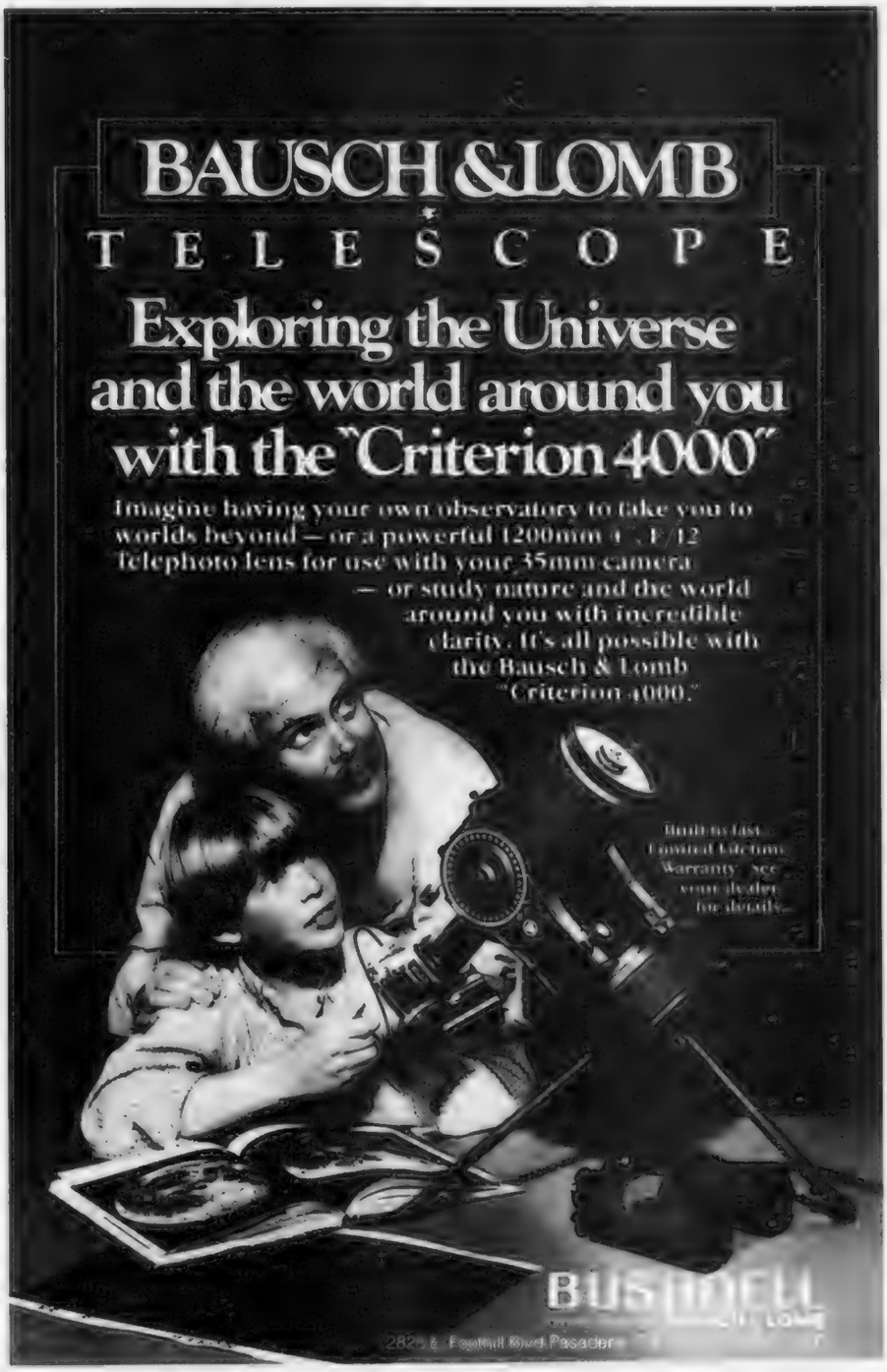


HERCULES CLUSTER COURTESY FLANDRAU PLANETARIUM

sky, try observing the Milky Way beginning in Cygnus (overhead in August at 8:00 P.M.), and follow the Milky Way south to Sagittarius and Scorpio. A million stars too faint to see with the unaided eye will be seen. This is the inside edge of our galaxy containing well over 100 billion stars. Now try to find the object at the end of the scorpion's tale marked "X". You will be rewarded with a view of a lovely cluster of stars. This is called an open cluster and contains several hundred stars in all. This little cluster is visible to the naked eye and is easy to find with binoculars.

Now try this next object which may be a bit more difficult to find since it can't be seen with the eye alone. First, find Hercules on the map and then notice the "X" on the smaller wing of the butterfly shape. Your binoculars will reveal a round, fuzzy globe. This is the famous Hercules star cluster, a great globe of over 100,000 stars some 30,000 light years above the plane of our galaxy. There are many other objects that you can discover with your binoculars that we shall describe in future issues. Oh, yes! One last object. Take a look at Jupiter. You will see a tiny disk with its star-like moons on either side. As you look at these little moons, contemplate this fact. The faintest and closest moon, Io, has several volcanos erupting on its surface at this very moment!

O. Richard Norton *is director of the Flandrau Planetarium on the campus of the University of Arizona in Tucson.*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Western Geology Illustrated

DRAWN FOR AMERICAN WEST BY ELIZABETH WOLF

The Valley of Ten Thousand Smokes

by Stephen L. Harris

"But where are the smokes?"

The red-haired lady from Australia had a point. Our group stood on a promontory overlooking Alaska's desert-like Valley of Ten Thousand Smokes, created in 1912 by one of the greatest volcanic eruptions in recorded history and now the central feature of Katmai National Park. When discovered in 1916, the Valley contained "thousands" of "little volcanos" spewing columns of steam 500 to 1,000 feet into the air. This profusion of roaring steam jets inspired their discoverer, Robert Griggs, leader of several National Geographic Society expeditions to the Katmai region, to name the area for its myriad fumaroles (vents discharging volcanic gas). To the lady's disappointment, seventy years after their creation, scarcely a "smoke" remained to be seen.

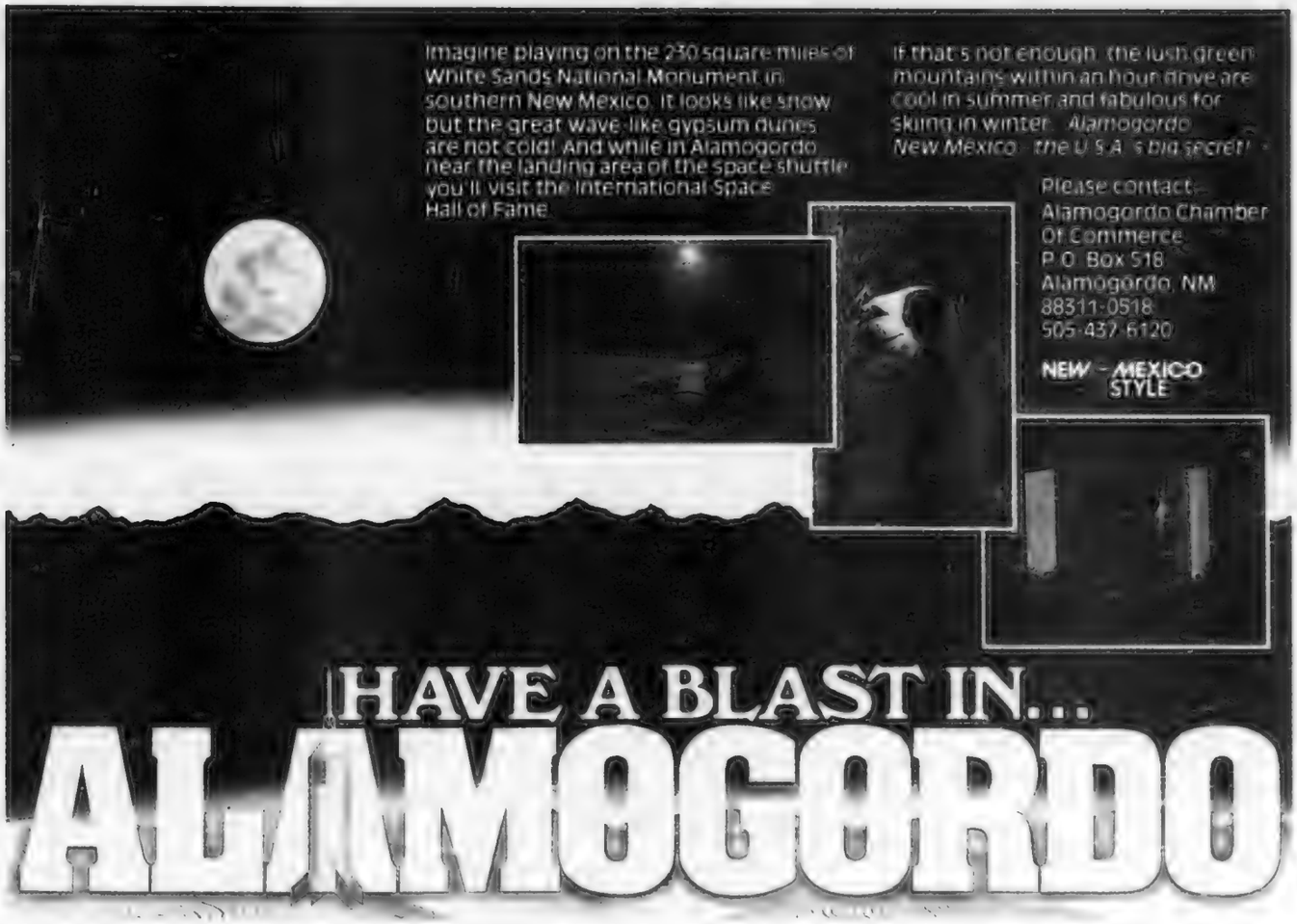
Early investigators like Griggs thought that the Valley fumaroles tapped an underground reservoir of molten rock (magma) and would outlast Yellowstone's geysers and hot springs. By 1930, however, fumarole activity had drastically declined. Today, geologic detective work has solved the mystery of the vanishing "smokes" and in the process also revealed the cataclysmic series of events that led to their fiery creation.

Located on the thinly populated Alaska Peninsula about 290 airline miles southwest of Anchorage, Katmai National Park at 2,800,000 acres is one of the nation's largest legally protected wilderness areas. Its southeastern boundary is the Shelikof Strait, which separates Kodiak Island from the mainland. A rugged terrain of glacier-carved lakes, whitewater streams, conifer-timbered lowlands, and ice-shrouded peaks, Katmai Park encompasses a picturesque segment of the Aleutian Range, including Mount Katmai and at least a dozen other volcanos.

Alaska's volcanos are typically explosive, but the 1912 catastrophe—in size, power, and volume of material ejected—dwarfs any other eruption in the world during this century. During a sixty-hour period between the afternoon of June 6 and the early morning of June 9, a new vent at the southwest foot of Mount Katmai disgorged between eight and nine *cubic miles* of pyroclastic ("fire-broken") rock. (This compares to the 0.3 cubic mile of ejecta from Mount St. Helens during all its 1980 activity.) About five cubic miles of tephra (airborne rock fragments) were hurled into the atmosphere and stratosphere, as enormous mushroom clouds of pumiceous ash turned day into night over much of southern Alaska. Kodiak village on Kodiak Island, 100 miles to the southeast, was blanketed under tephra a foot thick, while ash fell visibly over Washington state's Puget Sound, 1,500 miles southeast of the volcano. Residents of Juneau, 750 miles distant, repeatedly heard the thunder of colossal explosions.

Following the initial vertical ejection of tephra, a massive pyroclastic flow (a gas-rich, turbulent mixture of incandescent rock particles) swept outward from the erupting vent. The largest ash flow that has erupted on land during historic time, it poured eleven miles downvalley, was deflected by a glacial moraine (a ridgelike glacier deposit), and continued another three and one-half miles, charring and burying timber. Nearer the vent, standing timber was engulfed and carbonized. Temperatures in the giant ash flow—approximately four cubic miles in volume—were high enough (up to 950 degrees centigrade) to cause *welding*, a melting and fusing together of the rock fragments. Although most pyroclastic flows travel rapidly downslope (commonly 50 to 100 miles per hour), the 1912 ash flow was relatively sluggish, at least near its terminus.

The voluminous outpouring of hot rock fragments—ranging in size from dust grains to huge pumice bombs tens of feet in diameter—into the thinly forested valley west of Katmai produced the Valley of Ten Thousand Smokes. Before the eruption, the valley had contained marshes or swampy areas, as well as several glacier-fed streams. When inundated by the pyroclastic flow, stream and groundwater flashed into steam, in some instances blasting its way to the surface forming phreatic (steam) craters especially over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buried stream courses. More commonly gas escaped through crevices and fissures, creating thousands of new vents throughout the valley-filling ash. Although steam was the most common, other volcanic gases hissed and sputtered from the fumaroles, veiling the region in a sulphurous mist appropriate to Dante's Underworld. Except for those centered near the eruptive source—now plugged by the jagged lava dome that Griggs christened Novarupta—the Valley fumaroles were "rootless." Despite Griggs's belief, they did not originate in underlying magma but from the hot volcanic deposits in contact with groundwater. As the pyroclastic-flow material degassed and cooled, the "smokes" gradually disappeared.

Many geologists have worked to clarify the sequence of events that not only created the Valley ash flow and fumaroles but that also decapitated Mount Katmai and formed Novarupta as well. Katmai's truncated summit now holds a brilliant blue-green lake surrounded by multicolored lava cliffs rising up to 3,700 feet above the lake floor. Because of its newly formed three-mile-wide *caldera* (a bowl-shaped collapse depression), Griggs and other early investigators thought that Mount Katmai was responsible for the 1912 outburst. Geologists later concluded, however, that Katmai's summit collapse was incidental to the main event. Because of the complete absence of eyewitnesses near the eruption site and the extremely violent nature of the explosive activity, the precise eruptive sequence has been difficult to determine. Dr. Wes Hildreth, a scientist at the Menlo Park branch of the United States Geological Survey, has studied the Valley deposits and has recently produced a comprehensive interpretation of the Valley's formation. (See references below.)

The eruptions began with violent ejection of rhyolite magma—a molten rock high in silica—issuing in towering columns of white-hot ash from fissures about six and one-half miles northwest of Katmai. As the eruption progressed, the chemical composition of the magma changed from rhyolite, to dacite, to andesite. This progression from silky white or pinkish rhyolitic ejecta to dark-colored andesite deposits reflects a progressive decrease in the magma's silica content. It also appears that the new vent at Novarupta, which initially produced rhyolitic pumice, eventually tapped a reservoir of liquid andesite beneath nearby Mount Katmai. When Katmai's magma supply was drained away by the new volcano, support was withdrawn from Katmai's former summit, which collapsed to form the present caldera.

If they are willing to look, visitors to the Valley of Ten Thousand Smokes can still find active fumaroles. Besides those associated with the Novarupta caldera, conspicuous steam jets issue from Mount Griggs and from three other composite volcanos that form a semicircle above the Valley head. Mount Trident erupted tephra and several thick lava flows between 1953 and 1968 and is still steaming vigorously. Good-weather flights over the craters of nearby mounts Martin and Mageik are rewarded by close-up views of their bilious, yellow-green crater lakes surrounded by pulsating steam vents. After a spectacular air tour of Katmai National Park, even the Australian lady was convinced that it offers a wide variety of unspoiled scenery—still being shaped by volcanic fire and glacial ice—that more than compensates for the lost "smokes."

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Western Lookout

COMETERA PHOTO BY SUZI BARNES

Arabian Horses Western Style

Although they are regarded as the oldest breed of horse, the light, fleet-footed Arabians are relatively new to Western ranges. But they are being found more and more in stock horse territory. In the most Western of sports—the cattle-cutting competitions that began when cowhands first singled out a steer for branding on the range—increasing numbers of challengers are riding on Arabian blood. And because of the breed's stamina, it is seen more and more in demanding Western trail-riding competitions. Although claims for the Arabian's superior intelligence are hard to prove or disprove, recently movie studios have featured Arabian stallions in commercial productions that require extensive training of the animals. A positive commentary on the disposition of Arabians is that they are the only breed of stallion permitted by the American Horse Shows Association in the Ladies and Juniors categories. Whatever the reasons, the popularity of Arabian horses in the West is on the rise.

Among horse lovers, desirable qualities in the desert breed are disputed. Some prefer the angular body lines similar to those of Thoroughbreds, found most often in Arabians of Polish and Russian descent. Others seek a softer body with rounded croup, more common in English and Spanish bloodlines. Many buyers look for prominent eyes. Aside from the aesthetic charm, they say, large protruding eyes afford the animals a wider field of vision, making them less flighty. No one, however, disagrees about the grace of a fine equine muzzle, a long, arched neck, or long legs. Arabian horse auctions are also beauty shows.

Last February in Phoenix, Arizona, two megasales displayed the cream of Arabian stock from all over the West. The horses shown probably did not find a home on the range or in family riding stables. Sought for show and investment purposes, these horses brought astoundingly high prices. One grey mare of Polish lineage—a six-year-old named Cometera—sold for $1,000,000. She was not (but perhaps she should have been) part of the sale/show entitled "The Ultimate Fantasy."

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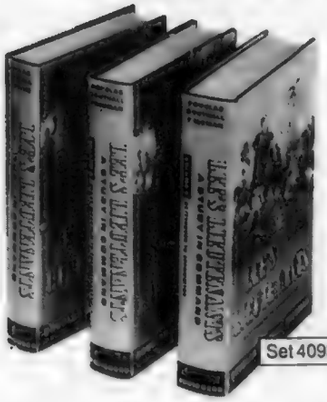

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The spirit of the Olympic Games arouses support and sympathy in every quarter. When the Olympic Committee received a $3,000 cashier's check from George "Guss" Christie, no one took much notice of the initials H.A.M.C.U.S. in the corner. That check, made out to the Special Olympics (a national sports program for the handicapped), was a contribution from the Hell's Angels Motorcycle Club of the United States. The donation grants Christie, president of the club in Ventura, California, the pleasure of carrying the Olympic torch over one kilometer of the cross-country run to Los Angeles this summer. Participation in the torch relay is open to anyone submitting a contribution of $3,000 to the youth organization of their choice via the Olympics Committee. Runners, wearing designated uniforms, will carry the torch on foot to light the sacred flame at the summer Olympics.

The National Cowboy Hall of Fame and Western Heritage Center in Oklahoma City has a growing list of honorees. One of the latest additions is Malcolm Baldrige, Secretary of Commerce in President Reagan's cabinet. Inducted on April 28, Baldrige was cited as "a man of Western ideals." Once a member of the Professional Rodeo Cowboys Association—and a trophy winner in professional steer-roping competitions—the sixty-one-year-old Baldrige still takes part in an occasional rodeo.

I'd Rather Be Powwowing and *More Than Bows and Arrows* are two films to be featured September 21 on the Native American Day roster at the Buffalo Bill Historical Center. Films, lectures, and tours of the Center's Plains Indian Museum in Cody, Wyoming, will be dedicated to the art, history, and lifeways of the Plains Indians. *I'd Rather Be Powwowing*, for example, follows the daily routine of an Indian who is a Xerox repairman through one day on the job in the white man's world. Again, the next day, the film follows him as he unloads Xerox equipment from his van, replaces it with feathers and bells, and drives across the state for a festive powwow. This man explains how he can accept his role in the white man's world and why he chooses not to let go of his Indian traditions. It tells of his successes in both worlds. All presentations are open to the public with free admission for school groups and Indians.

Power from Hoover Dam. In May, after a lively debate between legislators, the United States House of Representatives approved a bill that renews a fifty-year-old arrangement

(Continued on page 62)

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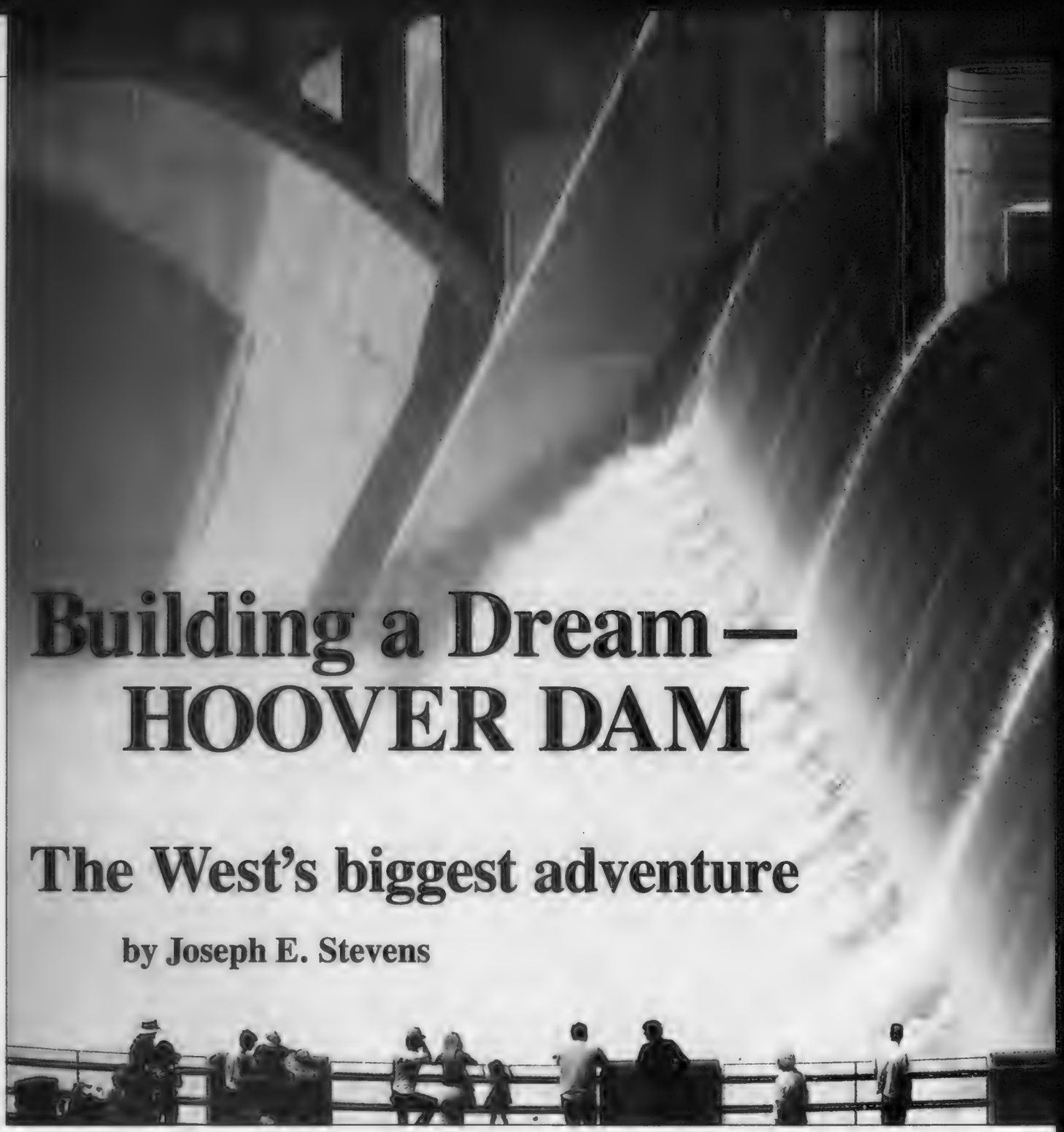


Building a Dream—HOOVER DAM

The West's biggest adventure

by Joseph E. Stevens

ON A HOT AFTERNOON IN MAY 1931, A POWERful dynamite blast shattered the desert stillness in Black Canyon on the Arizona-Nevada border. Fragments of ancient rock exploded outward and tumbled end-over-end into the muddy Colorado River below. An acrid cloud of dust and smoke billowed up to the canyon rim 800 feet above the water and smudged the clear desert sky.

The thunderous explosion signaled the beginning of one of the most ambitious and controversial engineering projects ever undertaken in the United States: the damming of the Colorado River. It also heralded the true birth of the twentieth century in the American Southwest, for Hoover Dam—the immense concrete arch that would rise from the narrow river gorge—as well as all the other dams, canals, and aqueducts it was destined to spawn, would provide the water and electricity to nourish a thriving oasis civilization in the midst of barren, arid land.

The forces of change unleashed by the blaster's charge in the remote desert canyon that spring afternoon swiftly and unalterably changed the physical and psychological geography of an entire region. To the west, the sunny, sleepy town of Los Angeles awoke and burgeoned into a sprawling industrial metropolis. To the south the desolate expanse of the Imperial, Coachella, and Yuma valleys bloomed green with

PHOTO BY BILL BELKNAP

Crashing blue water and rising white spray over Hoover Dam's spillways offered a magnificent but formidable sight in July 1983. Heavy run-off from fierce winter storms had transformed the Colorado River into a thunderous flood, peaking the already high levels of reservoirs along the river system. To control the level of Lake Mead, drum gates on the Hoover Dam spillways were opened for the first time in forty-two years.

citrus groves and alfalfa fields. To the northwest a dusty Nevada town called Las Vegas sprouted into one of the gambling and entertainment meccas of the world. To the southeast the sweltering desert outpost of Phoenix, Arizona, was transformed into a haven for tourists and retirees. And at the center of this remarkable metamorphosis lay Hoover Dam, the fount of water and power, the key to an industrial and agricultural empire.

The vision of an empire in the heart of the southern California desert sprang from the fevered imaginations of real estate speculators who came to the sere, sun-blasted valleys along the Mexican border in the late 1890s, searching for

cheap land, plentiful water, and personal fortune. In 1900, a group of these speculators formed the California Development Company, laid claim to 20,000 acre feet of Colorado River water, and began promoting the rich future of the blazing Salton Sink, a below-sea-level valley cut off from the Gulf of California by the Colorado delta.

In the spring of 1901, the western bank of the Colorado River was cut near Yuma, Arizona, and water began flowing down a meandering, unlined canal into the Sink, which the fortune seekers had grandiosely renamed "Imperial Valley." The rich alluvial soil soaked up the water as fast as it could be delivered, and within months excellent crops of vegetables, melons, alfalfa, and cotton were being harvested. The transformation was miraculous, and by 1904, over 7,000 people had flocked to the previously uninhabited desert, settling in the raw shanty towns of Imperial, El Centro, Calexico, Holtville, and Brawley. A second, larger intake cut was dug in the fall of 1904, increasing the irrigation flow and improving the Valley's already rosy agricultural prospects.

Throughout the four-year boom the Colorado was deceptively calm and benevolent, running within its established banks, flowing along canals and ditches at the behest of its human masters, nurturing fields and groves into green, robust life. Then in the late spring and summer of 1905 it suddenly became a raging torrent. Successive floods smashed through the two intake cuts, gouging out huge gullies, and the entire river followed, deserting its old channel and pouring in an uncontrolled rush into Imperial Valley. Five times barrier dams were thrown across the widening cuts to turn the Colorado back, and five times they were swept away like toys made of matchsticks and paper. At the height of the flood 360 million cubic feet of water poured into the Valley every hour, sweeping tons of dirt and debris with it.

Finally, on February 10, 1907, the swollen river was turned back into its original channel, but not before it had washed away more than four times the amount of earth removed in the building of the Panama Canal and created the Salton Sea, a 400-square-mile inland ocean.

The survivors tallied their losses—millions of dollars worth of crops drowned, thousands of acres scoured so completely they would never produce again, life's savings gone in a twinkling. Still there was no wholesale exodus. The memory of bountiful harvests was too strong, the dream of fertile black rows blossoming in the desert sun too compelling. But the dream's darker side had been revealed, and the growers, merchants, and speculators knew that as long as the river ran free in an unpredictable cycle of drought and flood, it would take life as well as give it. With reluctance bred by the unregulated growth of the past but with alarm born of certain disaster, they embraced the idea of federally sponsored reclamation.

A YEAR BEFORE THE GREAT FLOOD BEGAN, ARTHUR Powell Davis, an engineer working for the newly formed United States Bureau of Reclamation, conceived a sweeping plan for developing the Colorado River drainage from the Grand Canyon to the Gulf of California. The plan's centerpiece was a giant dam that would control the river's flow, provide hydroelectric power to Arizona, Nevada, and southern California, and permit managed irrigation in the Imperial Valley.

Despite the political and financial benefits the Southwest would derive from this program, Davis and the Bureau of Reclamation had trouble mustering united support for it. California, Arizona, and Nevada bickered fiercely over the plan's division of water and power, while Utah, Colorado, New Mexico, and Wyoming demanded that their interests be considered, too. The struggle continued until 1922 when, under the firm direction of Secretary of Commerce Herbert Hoover, the seven states drafted the Colorado Compact, a document outlining how the resources would be shared.

Even as a vigorous lobbying campaign was being mounted in Washington to push legislation through Congress authorizing development of the Colorado, engineers at the Bureau of Reclamation quietly began preparing for construction of the great dam. An expedition floated down the Colorado through the canyon country, drilling into the rock of the riverbed to find a foundation strong enough to support the weight of the dam and the huge lake it would create. After careful testing, Black Canyon on the Arizona-Nevada border was selected, and preliminary plans were drawn up.

Late in 1928 the Boulder Canyon Act (originally it was thought that the dam would be built in Boulder, not Black Canyon) emerged from Congress and was signed by President Calvin Coolidge. The Bureau of Reclamation announced that bids for building the dam would be due on March 4, 1931, and immediately the nation's largest construction firms began jockeying for what would be the most lucrative single contract let by the United States government up to that time.

Among the would-be bidders were two Mormon brothers, E. O. and W. H. Wattis, founders of the Utah Construction Company and builders of Hetch Hetchy Dam that impounded the water supply for the city of San Francisco. In 1922, the brothers had formed a partnership with their chief western competitor, Harry W. Morrison, president of the Morrison-Knudsen Company of Boise, Idaho. The Wattis-Morrison combination was not so strong financially as some other construction firms, but it did have one invaluable asset: its chief engineer was America's foremost dam builder, Frank T. Crowe.

With his slouch hat, slide rule, and faded khakis, the lanky, wind-burned Crowe was the prototype for the hard-driving, two-fisted, field engineer celebrated in films and pulp fiction. He had spent twenty years engineering in the mountain West with the Bureau of Reclamation before joining Wattis-Morrison, directing the construction of four dams and participating in the advance planning of the Colorado River project. He was, by his own admission, "wild" to build Hoover Dam, and when the bidding was opened he urged his employers to participate.

The elderly Wattis brothers were not easily convinced. W. H. was seventy-two and terminally ill with cancer. E. O. was seventy-six and also ailing. The magnitude of the dam

COURTESY ARIZONA HISTORICAL SOCIETY

During the summer of 1931 workmen began excavating in Black Canyon in preparation for the foundation of Hoover Dam. The photograph above shows the prehistoric bed of the Colorado River uncovered for the first time in its ten-million-year history. Frank Waters reported, "The rank smell of Mesozoic ooze and primeval muck filled the air." The thunder of dynamite blasts and the chatter of jackhammers echoed through the canyon as the dam builders hacked roads and tunnels out of the rock. At the left, a cloud of smoke rises from a blast above tunnel outlets on the Nevada side of the river.

building project and the financial risk involved frightened them; surety companies were expected to demand a $5 million cash guarantee before they would underwrite the construction. Nevertheless, Crowe's enthusiasm for the "biggest dam ever built by anyone anywhere" swept them along, and they agreed to invest $1 million—the combined profits of their fifty years in the construction business—in the project. Harry Morrison added $500,000 and began searching for additional capital while Frank Crowe began designing the dam.

Morrison had little trouble finding willing investors. The J. F. Shea Company of Los Angeles, a firm specializing in tunnel and sewer-line construction, joined for $500,000, as did the Pacific Bridge Company of Portland, Oregon. MacDonald and Kahn, Inc. of San Francisco, builders of the Mark Hopkins Hotel, invested $1 million. Finally, the Henry J. Kaiser Company of Oakland, W. A. Bechtel Company of San Francisco, and Warren Brothers Company of Cambridge, Massachusetts, joined as a unit, contributing $1.5 million.

The men who headed the half-dozen companies recruited by Morrison were all aggressive and fiercely independent, proud of their reputations and supremely confident of their business instincts and construction expertise. Working as part of a team would be a new experience for them, and it was with considerable trepidation that they first met, in December 1930 at the Engineers Club in San Francisco, to discuss the details of their bid.

HENRY KAISER, THE FLAMBOYANT FORTY-EIGHT-year-old contractor from Oakland, quickly emerged as the dominant personality in the group. Kaiser had been in Cuba directing the construction of a $20 million highway system when the Bureau of Reclamation announced the bidding for the dam project. Like Frank Crowe, he was electrified by the prospect of building the world's biggest dam, and, as he was later fond of recalling, he lay awake nights in the sweltering tropical heat, plotting his company's involvement in the project. Now, with his dream of the great dam about to become reality, he boldly asserted his leadership at the San Francisco meeting.

The other executives resisted him. "Our first hot argument," remembered Frank Crowe, "was over the organization chart. Kaiser thought the job should be run like an army, with a general in supreme charge. The idea got nowhere because no one, least of all Henry himself, wanted to be a private." However, as the discussions continued over a three-month period, the force of Kaiser's will proved irresistible, and in February 1931, the consortium was incorporated as Six Companies, Inc., with Frank Crowe the superintendent of construction and Henry Kaiser the chairman of the board.

As the deadline for submission of bids drew near, Crowe and his staff of engineers worked feverishly to complete their estimates. W. H. Wattis had been forced into bed by the cancer in his hip, and so the final meeting of the Six Companies officers prior to the bidding took place in the St. Francis Hospital in San Francisco. Crowe wheeled a scale model of the dam into Wattis's room, outlined his plans, and announced the estimated cost—almost $40 million. The executives assembled around the old Mormon's deathbed were stunned; they had expected a figure on the order of $50 million. Crowe's explanation was simple, however. The government had allotted seven years for the construction—he would finish in five by lighting the dam site and having shifts work around the clock, seven days a week. Two factors, he argued, made this a good gamble: the first was his own proven ability as a dam builder; the second was the huge pool of cheap labor created by the Great Depression. Thousands of men were already flocking to southern Nevada and camping in and around Las Vegas, waiting for jobs.

The Six Companies executives discussed Crowe's proposal and then approved it. Twenty-five percent of the estimated cost was added for profit, bringing the final bid to $48,890,000, and the papers were delivered to the Bureau of Reclamation. A week later, Six Companies was awarded the contract and ordered to begin construction no later than the spring of 1931.

Daunting political and financial obstacles had been overcome; now the dam builders faced physical obstacles that were no less staggering. From an engineering standpoint, Black Canyon was the ideal site for Hoover Dam, but from a human standpoint it could not have been worse. The sheer canyon walls plunged 800 feet into the Colorado, leaving not even a toehold for workmen at the bottom. The sun beat down with unrelenting fury, and the desert winds swept over the rim like the fiery draft of a blast furnace, raising summer temperatures to over 120 degrees. Then there was the river—a red, debris-laden juggernaut hurtling through the narrow space, capable of rising five feet in an hour and smashing whatever stood in its path.

Everything necessary for living and working in this hostile environment had to be brought in from the outside. Roads, rail lines, garages, warehouses, machine shops, a giant gravel-screening plant, two huge concrete-mixing plants, and a pipe factory all had to be designed and built on the site. Dynamite, cement, lumber, structural steel, and other supplies were purchased in vast quantities; drag lines, trucks, cranes, bulldozers, steam shovels, and other heavy equipment were freighted in; and to power all this activity a 222-mile electric line was strung across the desert from San Bernardino, California.

One of the most pressing problems facing the contractors was providing living space for the workers. The government's contract with Six Companies stipulated that eighty percent of the laborers were to be housed in company buildings. Construction of Boulder City, a small community seven miles southwest of Black Canyon, began at once, but it would not be finished until the late fall of 1931. As a result,

Supported by heavy lines hung from the rim, drillers worked on the 800-foot-high, almost perpendicular canyon walls, clearing away loose rock. These dauntless men had, perhaps, the most dangerous job on the dam.

COURTESY BUREAU OF RECLAMATION

thousands of workers were forced to live in rickety wooden barracks upstream from the dam site or in Ragtown, a collection of tents, trailers, and cardboard shacks on a river sandbar just northeast of Black Canyon.

Conditions in Ragtown during the first months of dam construction were appalling. Drinking water had to be drawn in buckets from the muddy Colorado and left to sit for hours while the silt settled out; bushes and open pits served as latrines; and the only relief from the blazing heat came from wet sheets strung between mesquite trees to catch the breeze. Government and Six Companies officials feared a deadly outbreak of disease, but the long summer passed without a major epidemic.

WHEN YOU GO

To visit Hoover Dam. *Guided tours of Hoover Dam are offered daily from 9 A.M.–4:15 P.M., September through May; and 7:30 A.M.–7:15 P.M., June through August. The cost of the tour is $1, children under fifteen free. The visitors' center at the Dam has a small museum with pictures and construction mementos. A free, twenty-eight-minute movie on the construction of Hoover Dam and reclamation in the Southwest is shown continuously at the Visitors' Bureau in nearby Boulder City. To reach Hoover Dam from Las Vegas, drive thirty miles southeast on Boulder Highway (Nevada Route 93/95). From I–40 at Kingman, Arizona, drive eighty miles northwest on Arizona Route 93.*

DRAWN FOR AMERICAN WEST BY ELIZABETH WOLF

IN JUNE 1931, WORK BEGAN IN BLACK CANYON ON THE first crucial stage of the dam construction—routing the Colorado out of its bed and around the dam site. To do this, four giant diversion tunnels, each over fifty feet in diameter and nearly a mile long, had to be blasted through the canyon walls. Ultimately the inner tunnels would be fitted with penstocks to deliver water to turn the turbines in the powerhouse at the dam's base. The outer tunnels would be used as spillways to control the reservoir's level in times of flood.

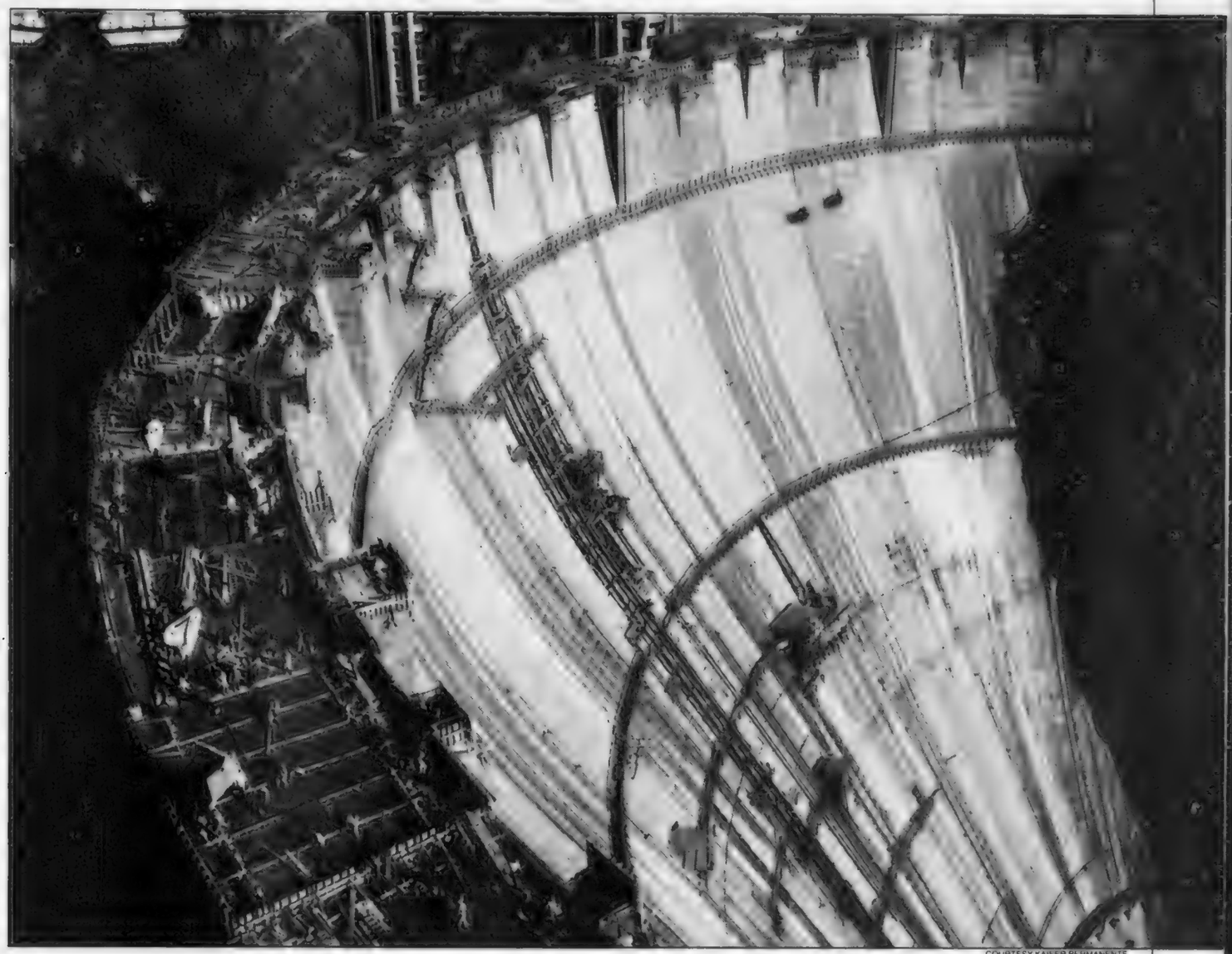
Driving the tunnels into the dark, unforgiving rock was a difficult and extremely dangerous task. Jumbos—large tractor-driven rigs mounted with two dozen jackhammers—advanced to the tunnel headings, and holes ten to twenty feet long were drilled. A charge of dynamite was packed into each hole, the jumbo withdrew, the blast was fired, and smoke and dust belched from the portals. Before the air cleared, mucking crews swarmed back into the dark holes to shovel the debris into trucks. This backbreaking work proceeded through the summer of 1931 in hellish conditions; temperatures in the dust- and exhaust-choked tunnels soared over 150 degrees, and heat prostration and carbon monoxide poisoning claimed thirteen lives.

While the diversion tunnels were being blasted, an equally difficult job began high overhead on the canyon walls. Hundreds of men equipped with jackhammers and dynamite were lowered over the Arizona and Nevada rims on bosun's chairs to clear away all loose rock. The work of these "high scalers" was both spectacular and terrifying. Ropes, electrical lines, and live air-hoses cluttered the canyon face. A slip meant a fatal plunge into the river far below, dropped tools became lethal missiles, and dynamite explosions and flying rock posed constant hazards.

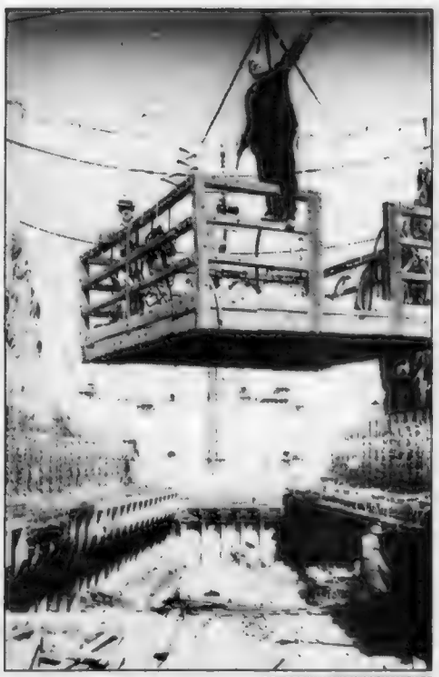
Despite the danger and the intense heat, work in the tunnels and on the walls proceeded at breakneck pace, day and night, under the sharp eye of Frank Crowe. Late in October 1931, the diversion tunnels were completed, and on the morning of November 12 a truck rattled onto a trestle bridge spanning the river and dumped a load of gravel into the water. For the next fifteen hours a truckload of rock was dumped every twenty-five seconds until the Colorado had backed up to a height of ten feet. The murky river churned and swirled uncertainly, then plunged into the portals of the diversion tunnels, deserting the channel it had been carving for more than ten million years. Two massive earthen cofferdams were erected to seal off the site of the dam's foundation, and a swarm of men and machines descended to begin removing the hundreds of feet of mud.

The scene presented by the stark canyon and the exposed riverbed made an indelible impression on all those who saw it. "The vast chasm seemed a slit through earth and time alike," author Frank Waters wrote after visiting Black Canyon while the excavation was in progress. "The rank smell of Mesozoic ooze and primeval muck filled the air.... Down below grunted and growled prehistoric monsters... steam shovels and cranes feeding on the muck, a ton at a gulp."

Digging twenty-four hours a day, seven days a week, it



COURTESY KAISER PERMANENTE



COURTESY KAISER PERMANENTE

COURTESY BUREAU OF RECLAMATION

The huge, smooth, white blocks arced up out of the dark canyon toward the bright desert sky, as men worked from aeries clinging to the man-made marvel. J. B. Priestly enthused, "Compared with this piece of building, the shining towers of New York seem like toys." At far left, Henry J. Kaiser, the ebullient chairman of the board of Six Companies, Inc., raises his hat in triumph before the remarkable construction feat of Hoover Dam. The photograph at near left shows several stages in the building of the mammoth dam wall. Concrete blocks were poured in sections to shorten the drying process and to prevent the development of large cracks from the stress of setting.

Hoover Dam and the Flood of 1983

Run-off from heavy winter snows filled the man-made lakes along the Colorado River early in the spring of 1983, forcing the Bureau of Reclamation to choose between maintaining high water levels for summer power generation or drawing down the reservoirs to protect against flooding from additional run-off. After consulting computer projections based on long-range weather forecasts and historical run-off data, Bureau officials chose to keep the reservoir levels high.

The projections—and the Bureau's choice—proved wrong. May snowstorms in the high country of Wyoming, Colorado, and Utah, followed by a heat wave, sent a powerful surge of water into the Colorado River system. On June 6, with Lake Powell (on the Utah-Arizona border) threatening to pour over the lip of Glen Canyon Dam, emergency water releases were begun through the Glen Canyon Dam spillways. By June 28, 92,000 cubic feet of water per second were thundering through the Grand Canyon on the way to Lake Mead, and it was apparent that Hoover Dam's flood control capability was about to be tested as never before.

The level of Lake Mead, already high from the earlier run-off, rose rapidly during the last week of June, and late in the evening of July 2, the giant 100′ × 16′ drum gates on the Hoover Dam spillways were opened for the first time in forty-two years. A wall of water crashed into the concrete-lined channels and was sucked into the diversion tunnels, plunging downward at a speed of 120 miles an hour toward the outlet portals, almost one-half mile below the dam. A cloud of mist rose into the hot desert night, and after a fifty-two-year hiatus, the roar of falling water reverberated off the walls of Black Canyon once again.

Lake Mead reached its highest point, four and one-half feet above the crest of the spillways, on July 29; the peak discharge that day was 50,800 cubit feet per second. Release of water continued until September 6, when the drum gates again rolled shut. The flood had caused millions of dollars worth of property damage downstream, but the destruction was only a fraction of what it would have been without the protection afforded by Hoover Dam. In emergency conditions, the dam's diversion works had performed exactly as designed and had suffered only minor damage—a tribute to the design and construction expertise of the men who built them nearly half a century earlier.

Old-timers who worked on the dam will probably remember it as Boulder Dam. The 1928 legislation providing for the dam was the Boulder Canyon Act (since first plans were for constructing it in Boulder Canyon, not Black Canyon), but when the dam was begun in 1931, it was named Hoover Dam in honor of President Herbert Hoover. After Hoover left office, the Department of the Interior started calling it Boulder Dam. In 1947 Congress officially adopted the name Hoover Dam.

took work crews only six months to strip away the blanket of debris it had taken the river eons to lay down. The bedrock was fully exposed, leveled, and cleaned, and on June 6, 1933, the first bucket of concrete swung down from the Nevada rim and was emptied into a house-sized wooden form. A gang of workmen shoveled the wet mass into place and almost immediately another bucket arrived. It was a routine that would be repeated, without letup, for the next two years.

As the dam first began to rise from the riverbed, it looked like a jumbled collection of giant building blocks, but as the sixteen-ton buckets of concrete swooped down, one every minute, twenty-four hours a day, month after month, the mammoth structure began to assume its graceful, arching shape. The piecemeal construction was necessary because of the dam's immense size and the huge volume of concrete required. When completed, the dam would be 660 feet thick at the base and 45 feet thick at the top, 1,244 feet long at the crest, 726.4 feet high, and weigh over six and one-half million tons. Had it been poured solid it would have taken 125 years to dry, and the heat and tremendous stress of the setting concrete would have caused large cracks. The solution was to build in blocks, cooling the individual sections by running pipes carrying ice water through them. An ammonia refrigeration plant was constructed, and a network of copper tubing, 662 miles long, was laid around and through the dam's vast bulk to keep it cool and drying evenly.

FOR THE THOUSANDS OF WORKERS SWARMING OVER the walls and floor of Black Canyon, the swift rise of the concrete edifice was a source of great pride. Theodore White, a reporter for *Harper's* magazine, was struck by the strong sense of esprit at the dam site. "It is an extraordinary existence out there," he wrote. "The men work with an enforced intensity and play with hilarious looseness. Their existence is a continued thrill and centered about the callous, cruel lump of concrete at the bottom of the canyon. And they love it....To them it assumes a personality and they are devoted to it."

On March 23, 1935, the last form was filled. A grout of pure cement was poured into the ducts and spaces left by the copper tubing until the dam was a single, monolithic piece. Several months earlier the four diversion tunnels had been plugged and the diversion works completed. These included four 395-foot intake towers, which would deliver water to the powerhouse via a system of huge steel penstocks, and two spillways, one on each side of the dam. By late summer, the

The power and the glory. "Finished, it stands in its desert gorge like a fabulous unearthly dream," wrote Frank Waters. Looking upstream toward Hoover Dam and Lake Mead during July 1983, the photograph shows the run-off over the spillway to the left of the dam and the white water emerging from the spillway tunnel outlets.

powerhouse was ready to receive its generators. Four and one-half years after the first blast had echoed through Black Canyon, Frank Crowe declared Hoover Dam finished—more than two years ahead of schedule.

Not since the opening of the Brooklyn Bridge in 1883 had the completion of a great public structure caused such excitement among the American public. For many people the gleaming concrete pyramid was more than an engineering triumph: it was a symbol of the material and spiritual values of the nation, a stunning reaffirmation of the American dream of limitless possibility. Franklin D. Roosevelt expressed these sentiments when he traveled west to deliver the dedication address to a nationwide radio audience on September 30, 1935. From a rostrum on the debris-strewn rim of Black Canyon he gazed down on the great dam and declared, "The transformation wrought here is a twentieth century marvel."

Roosevelt also paid tribute to the sacrifices made by the dam builders. During the course of construction, heat prostration, falls, explosions, drownings, and other accidents had claimed the lives of 110 workmen. In addition, four of the original Six Companies partners, including both Wattis brothers, had died before completion of the dam.

The surviving Six Companies executives studied their balance sheets and pondered the future; the consortium had realized a profit of almost ten and one-half million dollars and had been awarded the contract for construction of Parker Dam, the second link in the chain of engineering works that would harness the Colorado. Frank Crowe's share of the profits was $300,000, but to him the money was a secondary reward. He would go on to build Parker Dam and Shasta Dam in California before his death in 1946, but Hoover Dam was his monument, and he knew it. He spoke not only for himself but for the thousands of anonymous workmen who had toiled in Black Canyon when he told a reporter: "There's something peculiarly satisfying about building a great dam. You know what you build will stand for centuries."

Even as Crowe spoke, the waters of the Colorado were quietly spreading across the desert of Arizona and Nevada, forming Lake Mead, submerging mesquite and cactus, lapping gently against rocky bluffs, drowning hundreds of square miles under an inexorable, permanent flood. A wild river had been transformed into an instrument of financial and political power, forever changing the landscape and character of the American Southwest.

COURTESY BUREAU OF RECLAMATION

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COURTESY UNION PACIFIC R.R. COLLECTION, UNIVERSITY OF NEVADA, LAS VEGAS LIBRARY

At every turn, workers had to contend with precipitous canyon walls. The men were carried to and from the canyon floor in mechanical lifts called "monkey slides." At far left, a shovel removes muck from the partially excavated outlet of a spillway tunnel, one of four diversion tunnels that were driven nearly a mile through the walls of Black Canyon. In the dark, smoky holes where hundreds of men toiled, temperatures rose to over 150°. When work began on the dam in 1931, living quarters for workmen had not yet been built. Like many other families, the mother and children at left lived in Ragtown, a squatters' camp also known as Hell's Hole, several miles upstream from the dam site. Summer temperatures regularly exceeded 120°.

2ND WIN A TRIP PHOTO CONTEST

1983 Grand Prize Winning Photograph by Wendy Shattil of Denver, Colorado

American West and its readers celebrate the unspoiled West

"AMERICAN WEST and its Readers Celebrate the Unspoiled West" is the theme of our second annual photography contest. Photos will be judged in two categories: "The Land" and "The People."

Last year our contest drew 1,000 beautiful pictures of the West, and this year we are looking for even more. Winners will be published in the January 1985 issue of **AMERICAN WEST**. The Grand Prize Winner will receive an all-expense-paid trip for two next summer to the historic beautiful community of Telluride, Colorado, for 4 days and 3 nights. Telluride, which is located in the mountains of southwest Colorado, will welcome you with luxurious condominium accommodations, gourmet meals at local restaurants, horseback riding and other exciting adventures in the scenic Rockies. This trip, including air fare, has a value of up to $2,000.

Deadline for entries is September 15, 1984. There is still plenty of time to shoot the West's summer and early fall. Read the contest rules and get your entries in the mail!

CONTEST RULES

ELIGIBILITY

The contest is open to everyone except employees of AMERICAN WEST and their relatives. All entries must be available to the magazine for use on a first-right basis; previously published photos or ones pending publication will not qualify. **AMERICAN WEST** acquires the right to publish, use for exhibit or promotion, all winning photographs.

ENTRIES

You may submit up to 5 entries in any combination of the two categories: "The Land" or "The People." Be sure to enclose the official entry form (or a 3" x 5" facsimile) with your name, address, phone number, and total number of photographs entered. There is a single entry fee of $5 per participant, whether one or five photos are entered. Make checks or money orders payable to "**AMERICAN WEST** Photo."

Photographs may be either black and white or color, and are not to exceed 8" x 10" in size. If your color photograph is judged a winner, you will need to provide a color transparency to **AMERICAN WEST.** Do not send photos mounted in glass.

Each entry must be clearly marked on the back with the name and address of the photographer, the contest category, where the photo was taken, and if possible the type of camera and film used, along with any special lenses, equipment or techniques. Model releases must accompany all photos that include identifiable people.

LIABILITY

A stamped, self-addressed envelope must accompany your entries for them to be returned. **AMERICAN WEST** is not responsible for materials lost or damaged in the mail.

DEADLINE

Your entry must be postmarked by midnight of September 15, 1984. Late entries will be returned unopened. Send to: **AMERICAN WEST** Photo Contest, 3033 N. Campbell, Tucson, AZ 85719

1984 AMERICAN WEST PHOTOGRAPHY CONTEST

Official Entry

Name _____

Address _____

City _____

State _____ Zip _____

Phone _____

Number of entries _____

Please read the contest rules carefully and enclose the $5 entry fee.

Taming the Wild Jojoba

Ancient plant is the Cinderella of the Southwest

by Andrew Weil
photos by George H. H. Huey

Near Casa Grande, Arizona, cultivated, young jojoba plants bring a new green promise to the Southwest. Its nuts suitable for many industrial uses, the hardy plant of Indian lore thrives in arid areas.

"I'M A JOJOBA NUT!" SAY BUMPER STICKERS ON CARS AND pickups in the Casa Grande Valley of southern Arizona. A few years ago, few people here even knew what jojoba nuts were. Now everyone knows. Six thousand acres around Casa Grande are planted with this new crop, and some very serious growers predict that jojoba is the solution to the problems that plague desert agriculture in the Southwest, especially in areas like Casa Grande. Cotton has long been king there, but its days are plainly numbered as a result of rising costs of water and power.

Despite its exotic botanical name—*Simmondsia chinensis*—jojoba is not from China. (The botanist who named it did so from a wrongly labeled collection sheet.) It is a native plant of the Sonoran Desert, occurring in arid, rocky habitats of northwestern Mexico and southwestern United States, and its common name is a Spanish version of the Papago word "howhowi." Hikers in mountains around Tucson and Phoenix often encounter these neat shrubs with thick, grayish-green leaves. In summer the female plants bear nuts that vaguely resemble acorns. Inside the easily removed husk is a dark kernel that looks like a smallish, elongated filbert.

Indians of the Southwest munched on these nuts as occasional snacks, enjoying their oily texture and bland taste. Some made a coffeelike beverage out of the roasted seeds, and some used the oil for cooking—extracting it by grinding and boiling the nuts, straining out the particles, and skimming the yellow liquid from the surface of the water. Papagos, Seris, Apaches, and other tribes of the Sonoran Desert valued this oil highly, mostly for other-than-culinary purposes. They used it as a leather dressing, applied it to wounds, swallowed it as a remedy, and rubbed it on the skin and hair as a conditioner.

Early Spanish chroniclers took notice of the plant and the Indians' high estimation of it. Writing of the jojoba nut in 1716, Father Luis Velarde said: "It does not serve for sustenance, although when the skin is removed it is agreeable to the palate; however, it is so medicinal and so advantageous that every day there is found a new virtue in it for various illnesses, and it is treasured and asked for from Mexico and even from Spain." Since then anthropologists and botanists have recorded the ways Indians used jojoba oil, even as those ways died out in modern times.

That information attracted the interest of several forward-looking plant researchers of the present century, particularly in Arizona. The two institutions that pioneered early work on jojoba were the Boyce Thompson Southwestern Arboretum in Superior and the University of Arizona in Tucson. Colonel William Boyce Thompson, founder of the Arboretum, said at its dedication: "Find one plant that will add to the welfare, comfort, and happiness of the people of this less favored, sadly neglected region, and we will have done a great service." In 1925, together with the Arboretum's director, F. J. Crider, Thompson started the first experimental plantings of jojoba to determine its requirements for cultivation.

Crider became enthusiastic about the plant as a means of controlling soil erosion when he discovered its spectacular root system: it sends a taproot down for thirty-five feet in search of water. He also stimulated work at the University in Tucson on the chemical composition of jojoba oil.

The results of those studies surprised scientists when they were announced in the early 1930s. Jojoba oil, accounting for fifty percent of the weight of the nuts, turned out to be not an oil at all but a liquid wax, very similar in properties to sperm-whale oil, then widely used as an industrial lubricant and ingredient in cosmetics.

The differences between oils and waxes are mostly matters of technical chemistry. One of the practical differences is that oils turn rancid by combining with oxygen and break down on heating; waxes do not. Also, many oils are nutritive, providing calories in the form of fat; waxes are not caloric. Many waxes come from plants, but all of them are solids. Jojoba "oil" is unique as a liquid wax, one with many possible industrial applications.

Through the 1930s and 1940s the Boyce Thompson Arboretum shipped samples of jojoba nuts to dozens of companies for testing. A number of manufacturers appreciated the potential usefulness of the oil, but the uncertainty of supplies of the raw material dampened any real commercial

(Above) Experimenting in the cultivation of the new-old wonder plant jojoba, Bob Breen inspects seedlings grown in a greenhouse near Casa Grande.
(Left) When jojoba seedlings are eight weeks old, workers transplant them to an experimental field of the Sunland Jojoba Corporation. Needing little water or care and only marginal soil, jojoba is considered a rival of cotton as a major crop in the region.

interest. Not until the 1970s did demand for jojoba oil become intense.

Several factors accounted for the change. Near extinction of sperm whales in the late 1960s led the United States to ban imports of their oil, effective in 1971. Jojoba's supporters championed it as a renewable substitute, and this attention helped free up funds for research. In 1972 the Office of Arid Lands Studies of the University of Arizona processed 87,000 pounds of wild nuts and sent samples of the oil to more than 200 firms and laboratories. In 1975 a National Academy of Sciences analysis of jojoba oil concluded that many industries could find uses for it. A large Japanese corporation began buying nuts from the San Carlos Apache reservation in Arizona in order to resell the oil to Japanese cosmetics firms. On Whale Day in 1977, Governor Jerry Brown called for development of a jojoba industry in California and signed a measure providing $700,000 for studies to help start it.

Not long after, rising oil prices in the wake of the Arab oil embargo motivated industrial chemists to look for petroleum substitutes and additives to boost the efficiency of lubricants derived from petroleum. Again, jojoba was a leading candidate.

FINALLY, EXPERTS ON DESERT AGRICULTURE BEGAN TO focus on jojoba as an ideal crop for arid lands. It requires little water and care relative to crops now grown in drier regions of the world, thrives in marginal soils, and yields a more valuable product than most crops grown anywhere. Israel and Mexico undertook intensive experimental plantings of jojoba, followed by a number of other countries in Africa and South America. Several international jojoba conferences were held, one in Tucson.

All this activity produced dramatic results. For one thing, the price of jojoba oil shot up, with demand far exceeding supply. The wholesale price today is about $75 a gallon. A new cottage industry sprang up in the Southwest: gathering of wild jojoba nuts for processing into "liquid gold." Harvesting the nuts is hard work, especially since they ripen in the baking heat of July and August, but the pay is about $2.25 per pound, and good pickers can collect four to seven pounds in an hour.

Another development has been the rising commercial interest in cultivating the plant to assure larger supplies of nuts than those from the wild. The prospect of making it big in jojoba has drawn a lot of venture capital to the Southwest and with it some very innovative entrepreneurs. This is how jojoba came to Casa Grande in the heart of Arizona's ailing cotton kingdom.

Peter Childs learned about the plant on the San Carlos Apache reservation, where he worked on a Bureau of Indian Affairs project concerned with development of a jojoba program for the tribe. The idea was to encourage the Indians to harvest wild nuts and sell the oil as a source of cash. As Childs helped build a small processing plant on the reservation, he kept hearing about the limitless industrial possibilities for the oil from a friend at the Arid Lands Office of the University of Arizona. Finally, he became convinced that

cultivation of jojoba was a worthwhile business venture. In 1975 he resigned his BIA job and the next year formed a partnership with Bob Breen, then a graduate student of wildlife management who was looking for a way to make money.

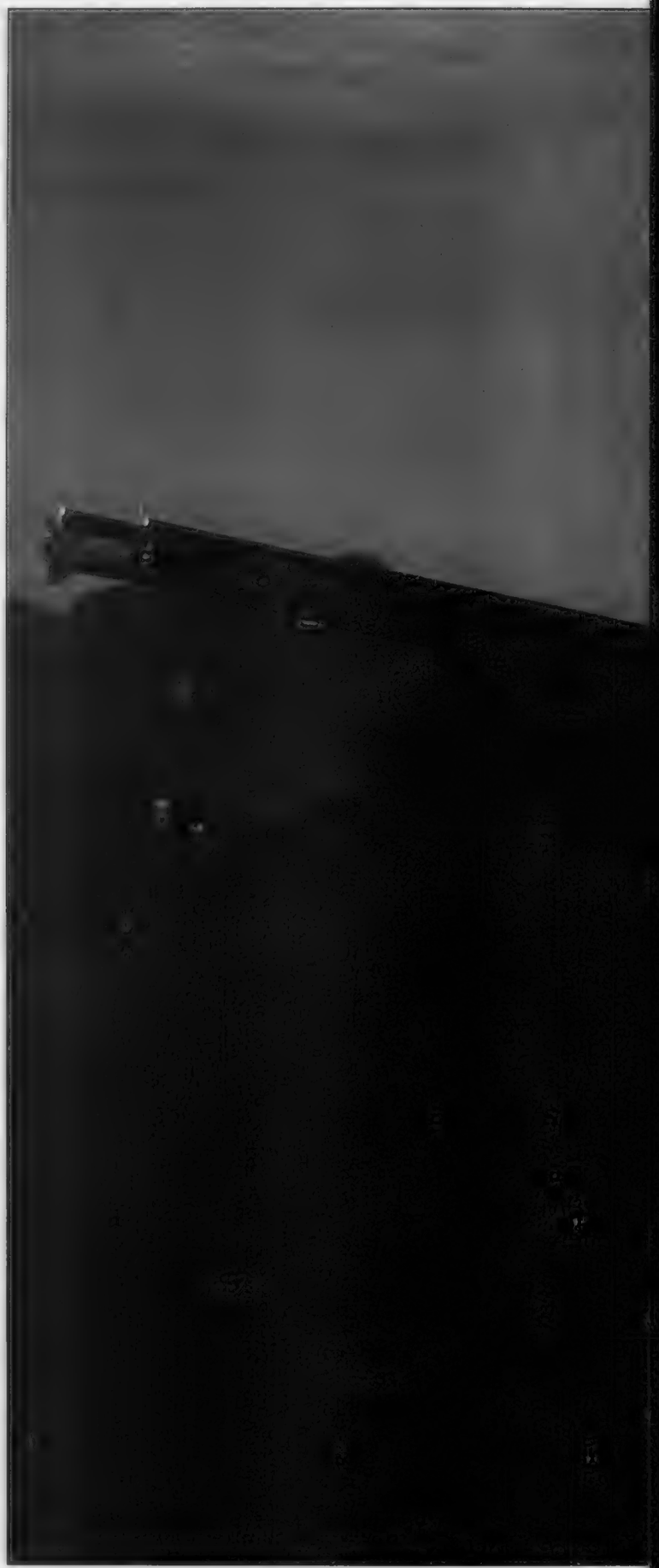
Childs and Breen operated as traders in jojoba nuts and oil and started experimental plantings of seedlings, first in Skull Valley near Prescott, then at Marana near Tucson. Both locations proved to be a little too cold in winter. In 1979, having taken on several investors and formed the Sunland Jojoba Corporation, they moved to Casa Grande, midway between Tucson and Phoenix, planted 200 acres of jojoba, and began buying up land for more.

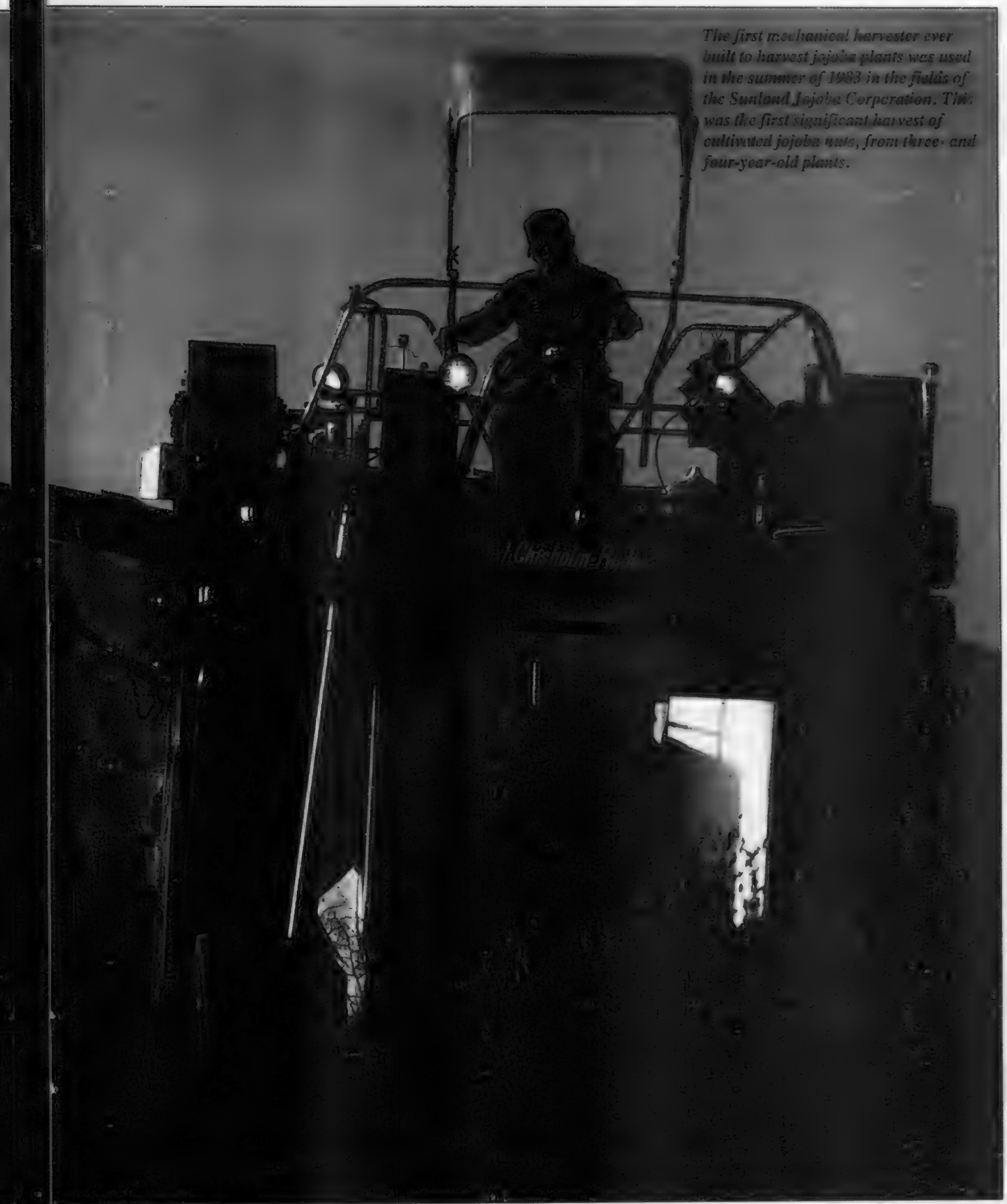
Today Sunland Jojoba manages 3,500 acres in the Casa Grande Valley, half of them planted with the new crop, and it has set up a large processing plant that will be able to extract oil from much of the jojoba now under cultivation in the Southwest. Most of the nuts the company processes still come from the wild, bought from individual pickers, but July of 1983 saw the first significant harvest of cultivated nuts from three- and four-year-old plants. By next year Sunland Jojoba expects the cultivated production to equal the wild harvest and by 1985 to surpass it, nine to one.

To see how the project was coming along, I traveled to Casa Grande to watch the first harvest last July. The Casa Grande Valley is not where people go for the summer. Aside from field after field of flowering cotton plants and a few sleepy road towns, there is not much here but desert. Of course, there is Casa Grande, itself, which is experiencing a real-estate boom, but the rural areas seem depressed, the land tired. As in much of the West, water has been the key to the life and health of this region. With the building of Phoenix and Tucson, much of the water was diverted to those cities, leaving the Indian population in poverty. Most of the rest went to agribusiness, meaning cotton.

Large-scale cotton growing seems a mistake in the desert. It takes too much water. It is labor intensive and requires heavy applications of herbicides and pesticides that poison the soil over time. So much water has been pumped from the earth in the Casa Grande Valley that large stretches of ground have sunk or caved in—"subsidence" is the geological term. By any name it is a disaster, a sign of poor management of land.

Subsidence has wreaked havoc with wells. Sudden movements of the subsoil bend and break well-casings with ease. The well-repair business is doing fine here, but it puts yet another financial burden on farmers whose expenses are already killing. On the morning I went out with Bob Breen to survey the fields under his management, our first stop was at a broken well on the edge of a big cotton field. (Half of Sunland Jojoba's acreage is still planted in cotton, but the cotton will be phased out over the next few years.) The well-repairman had just taken pictures to determine the extent of the damage. "All this will be as dead as the pony express," he said, waving his hand at the expanse of fields. "There's not going to be farming here for much longer—the economics of it just doesn't work."





The first mechanical harvester ever built to harvest jojoba plants was used in the summer of 1983 in the fields of the Sunland Jojoba Corperation. This was the first significant harvest of cultivated jojoba nuts, from three- and four-year-old plants.

Eventually, the Central Arizona Project will bring more water to Casa Grande, but it will be expensive. Rising costs of water, electricity, supplies, and labor seem to spell the end of agribusiness here. Some farmers have gone under already. Many more are thinking about pulling out. Developers talk about turning the farms into suburbs.

BOB BREEN DOES NOT AGREE WITH THAT VIEW. HE thinks conventional agriculture is doomed in the Arizona desert, but he is an active proponent of unconventional agriculture. At thirty-four he is president of Sunland Jojoba and has committed himself to a bold venture with no precedent. "When we first started planting jojoba here, we got laughed at a lot," he recalls. "Everyone was willing to sell us land for our folly. Now no one will sell us land—they're all planting jojoba themselves."

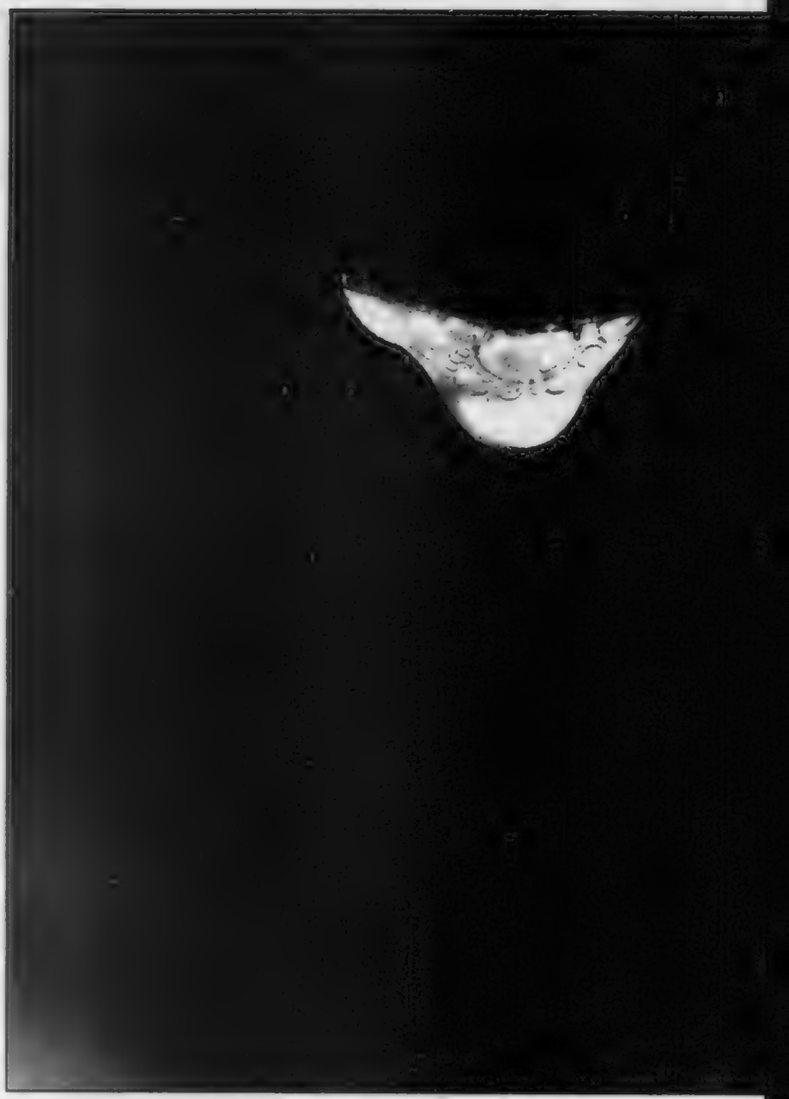
Breen is soft spoken and hard working. A child of the sixties, he was in college at Kent State University during the political violence that tore that campus apart. He had a nomadic, hippie period and made a living for a while by importing Guatemalan textiles. Now, like others of his generation, he is interested in success, but he has not abandoned his sixties' idealism.

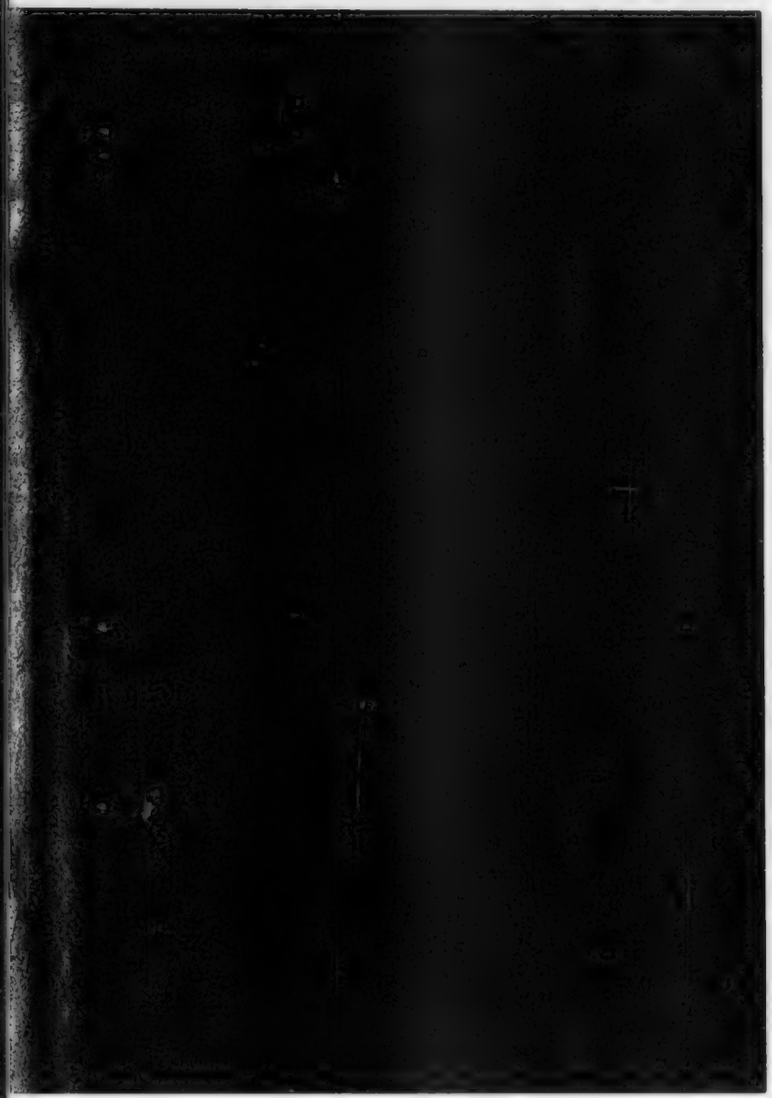
With his wife Pam, Bob Breen lives in a comfortable ranch house surrounded by his fields. Moving to the Valley has meant giving up the social and cultural life of the city. For the Breens it is a sacrifice in order to realize the dream of creating a new kind of farming for a new age. Their living-room window looks out on neat rows of young jojoba plants, just six inches tall after a year's growth. It is strange to see a wild desert species growing in orderly ranks like carrots.

Jojoba requires one-fourth the water that cotton does. It needs to be weeded when young, but once the plants are established, they will grow rapidly and dominate the fields, needing no herbicides to control the competition. No predators attack them. They are long-lived perennials, easily spanning a century. They can survive drought and extreme heat. Young female plants begin to bear nuts in their second or third year, although full yields probably require ten years of growth. Breen envisions the production of three pounds of nuts per plant or one ton per acre. That translates to 1,000 pounds of oil per acre, worth $8,000 at current prices. "Cotton is the past," says Breen, "and this is the future."

Of course, there are problems to be overcome. Walking through rows of three-year-old plants, I was struck by variations in size and form: some were upright and compact, some sprawling, some scraggly, some big, some small. Genetic variability of jojoba extends to production of nuts as well, both as to quantity and distribution on branches. Commercial growers like Bob Breen want uniform plants that yield nuts in ways that facilitate mechanical harvesting. At the moment, they have no control over the variations, because they can propagate jojoba only from wild seed.

Cultivated jojoba needs to be thinned several times after planting, providing opportunities for removing less desirable plants, including excess males. Growers are beginning to save seed from promising looking individuals and are think-





The rich browns of a handful of jojoba nuts hide a treasure that may offer prosperity to Southwest agriculturists and help solve the problem of dwindling water supplies. Pale and beautiful, a thick drop of jojoba oil starts its fall from the press. Increasing demands for the oil in cosmetics, pharmaceuticals, foods, and in the auto industry challenge producers to expand cultivation of jojoba.

ing about ways of cloning ideal plants to ensure genetic uniformity. Unfortunately, no one yet knows what the ideal jojoba plant should look like, since there is so little experience with cultivation and harvesting on a large scale.

Sunland Jojoba harvests its young plants with a modified wine-grape picker: a huge, lumbering machine that drives along the rows and shakes the plants with mechanical beaters. The nuts fall onto moving belts that convey them to baskets. When I rode on this machine, it seemed to me far from efficient. It left many nuts on the plants and knocked others to the ground. Breen says the next step is to fit it with a suction hose that will vacuum up fallen nuts, then perfect the beaters.

All of the nuts from Sunland's fields, along with those of independent growers and those from the wild harvest, go to the shining new processing plant, where Peter Childs has his office. A vice-president of the company, Childs now lives in Tucson and commutes to the plant, either by car or private plane. He showed me how the nuts were husked and cleaned by machine, then fed into a powerful hydraulic press that recovers 80–84% of the oil after two pressings. "We're going to add a solvent extractor that will get out another 15%," Childs says, "and that will make us the best processors around. So we expect we'll be getting most of the nuts in commercial production." What comes out of the press is a beautiful golden yellow liquid, but industrial customers prefer an almost colorless and odorless product that requires an extra refining step.

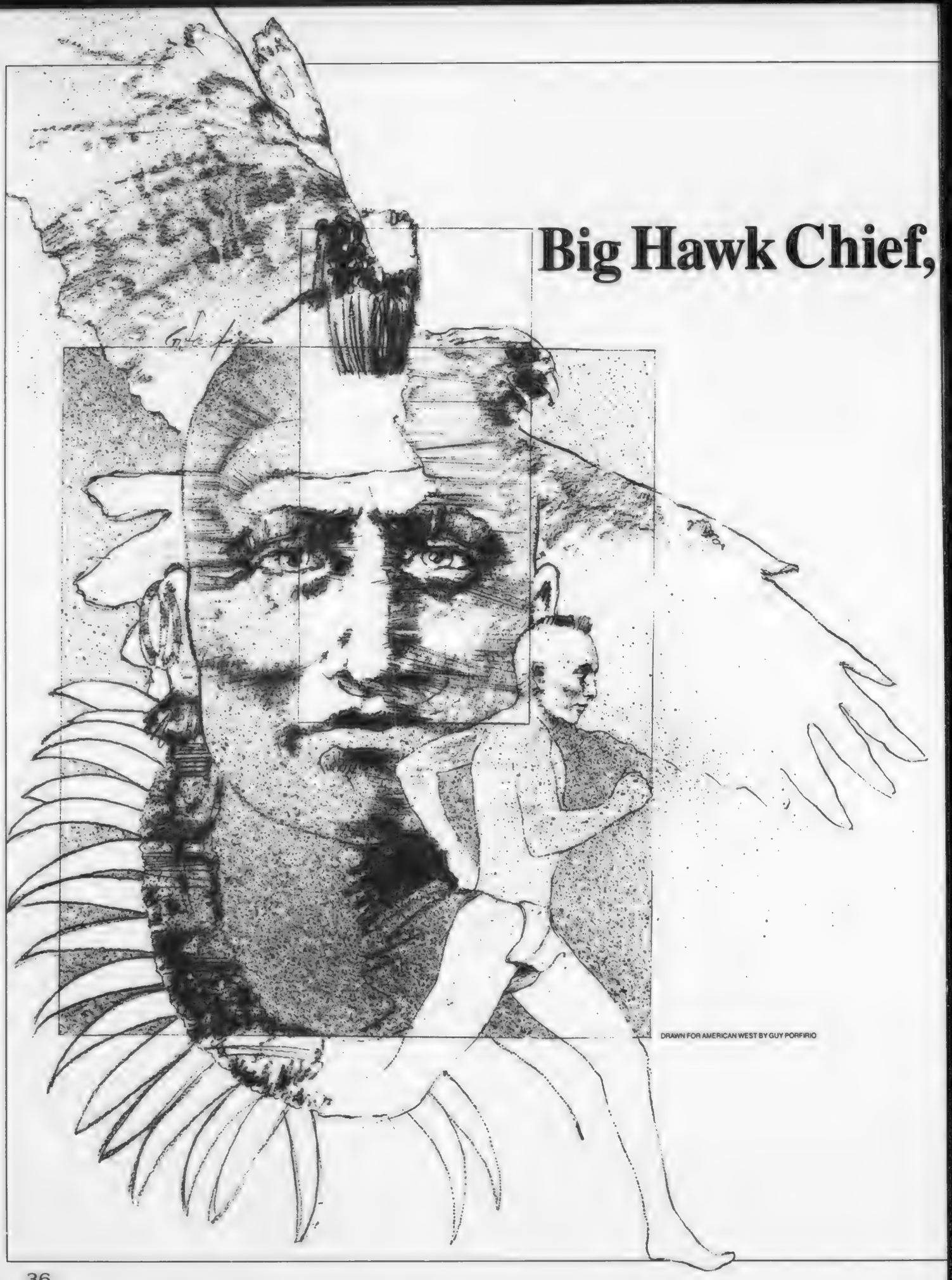
Childs explained that cosmetics firms are currently the main buyers of the oil, more than half of them in Japan and Europe, the rest in the U.S. "Jojoba" has become a magic word on the labels of natural shampoos, soaps, and body lotions, even though the actual amount of the oil in these products is likely to be minuscule given its high cost.

As soon as production increases, other kinds of customers are likely. Pharmaceutical companies want to use jojoba oil in manufacturing certain drugs. Makers of automotive products have found that jojoba oil can provide superior lubrication for engines. The food industry is interested in it as a noncaloric frying medium that might allow people to enjoy french fries and potato chips that are no more fattening than the potatoes themselves.

For the present, the problem is still supply. Each year more acres are being planted in jojoba—30,000 to date, mostly in Arizona, the rest in California. The greatest concentration of cultivated jojoba in the world is in the Casa Grande Valley, which seems appropriate, since it is within the plant's native territory, an agricultural oasis in the state that pioneered the domestication of jojoba. Admittedly, jojoba growing in Casa Grande is an experiment, a business venture not without risk. Yet in its blending of high technology and traditional wisdom, it seems a most promising experiment, one that might serve as a model for better management and use of desert lands in the Great Southwest.

Andrew Weil, *M.D., is Lecturer at the College of Medicine at the University of Arizona. He is an authority on ethnobotany and medicinal plants. Latest among his books is* Health and Healing: Understanding Conventional and Alternative Medicine.

Big Hawk Chief,



DRAWN FOR AMERICAN WEST BY GUY PORFIRIO

a Pawnee Runner

Was he the fastest man in the world?

by Bil Gilbert

AS TEENAGERS, FRANK AND LUTHER NORTH EMIGRATED with their parents from Ohio to Nebraska in the 1850s. Subsequently the brothers were cowboys, commercial wolf and buffalo hunters, Indian fighters, gold prospectors, and ranchers. They prospered and became prominent figures in Nebraska and adjacent territories, celebrated for their boldness, enterprise, high-rolling lifestyles, and mastery of the manly frontier arts. (Frank North was widely acclaimed as "the best revolver shot in the West" and was reported to have bested Wild Bill Hickok frequently in big-stakes shooting matches.)

Many colorful stories were told by and about the brothers, but now, more than a hundred years later, the one that remains the most extraordinary has to do with a thought-provoking, sporting happening. It seems to have been widely circulated in the Norths' own time but has seldom been recalled in this century. A reason for this obscurity may be that if true, as the Norths stoutly claimed, the incident would require the revision of some of our most important sporting records and histories. Even if false, as is possible, implications flow from this story that raise unsettling doubts about a cherished contemporary assumption—that we are far superior to our forebears and are steadily improving as far as athletic prowess is concerned.

By way of background. In their youth the Norths lived near and sometimes with the Pawnee Indians, learned their language, and throughout their own lives maintained affectionate rapport with the tribe. After the Civil War the brothers organized a company of these warriors who served as irregular auxiliaries aiding the federal cavalry in campaigns against the Sioux and Cheyenne—ancient enemies of the Pawnee. The Pawnee Scouts, as the unit came to be called, did well in a series of engagements, and the Norths who led them received abundant publicity from journalists and penny-dreadful novelists who touted the brothers as dashing, Green Beret–type commandos. The Scouts' last fight came in 1876 when, in the panicky period following Custer's annihilation on the Little Big Horn, they guided a detachment of regulars commanded by General George Crook in pursuit of Dull Knife, the last formidable Cheyenne war chief. At the conclusion of the campaign the Norths took their Scouts to Fort Sidney in Nebraska and stayed there until the spring of 1877 when the Pawnees were officially discharged.

As an active military base and supply depot for civilian gold miners working in the Black Hills, Fort Sidney constituted perhaps the wildest Western town then booming. Luther North vividly recalled the style of the place. "The town was full of saloons and dance halls, and gamblers and gunmen were very plentiful. I was in a saloon one night when a gambler and a teamster quarreled. . . . They were at opposite ends of a billiard table, and one of them fired six shots and the other, five. The gambler was hit once, losing the lower tip of his ear, and the other man wasn't touched. The two men were considered fairly good shots, but it shows that all gunmen were not so deadly as some writers would have us believe."

The Norths wisely kept their Scouts under tight discipline, out of the worst Sidney hellholes, and occupied with a series of essentially sporting diversions. To entertain some visiting eastern politicians a sham battle was arranged between the Pawnees and H troop of the Third Cavalry. It was judged to be a draw but a fine attraction with a lot of daring horsemanship and harmless gunplay. Later a baseball game was organized, and in this contest the cavalry did beat the Indians.

ONE DAY IN APRIL, LUTHER NORTH BEGAN BRAGGING to an acquaintance about what a marvelous runner one of the Scouts was. The man was called by the whites Big Hawk Chief (Kootahwecootsoollelehco in Pawnee). He was then twenty-three years old and according to a military physician who examined him at Fort Sidney, "the most perfect specimen of a man" he had ever seen. On one occasion, carrying messages for the Norths, he had run 120 miles in twenty-four hours; then after resting a day, he had returned to the Norths, covering the same distance in only twenty hours. If the times and distances were anywhere near accurate, this amounted to running nine back-to-back marathons in a three-day period.

Luther North went on to boast that his Scout had phenomenal speed as well as endurance. The acquaintance (never named but probably an army officer) reacted predictably and said in effect "show me." Thereupon North called up Big Hawk Chief and with the doubting observer went to a track laid off for informal horse racing. It was agreed that the Pawnee would run a mile on this half-mile course, presumedly a soft

dirt one, chewed up by the ponies who regularly used it. Luther North brought along a watch that at least had a second hand and may have been one of the one-fifth-second stop watches then used to time horses and dogs.

At the track Big Hawk Chief stripped down to his breech clout and started running at the crack of a revolver shot. He cruised the first half-mile, according to North's watch, in 2:00, then dug in and came back with a 1:58 for his second half-split. North and his friend were so amazed by the clocking that they immediately sent for a steel tape and re-measured the track. They found it to be exactly one-half mile and that Big Hawk Chief had therefore run a full mile in 3:58.

The proud Luther North later said of his Pawnee flyer: "He had no equal. I would like to have seen him matched against the best runners in this or any other country." (Any such contest might have been fairly one sided. A few months later in New York, at the United States championships of 1877, the mile was won by R. Morgan in 4:49¾. Nearly twenty years later the first Olympic winner in the 1500 meters was Edwin Flack of Australia whose time was 4:33.)

The first, almost reflexive reaction is that Big Hawk Chief's time was impossible and his run unbelievable. We *know* that the "magic" four-minute-mile barrier was not broken until 1954 when Roger Bannister ran a 3:59.4 in what was then and still is considered one of the greatest record-breaking performances of the twentieth or any century. The truth is that of course we do not know this; we have simply agreed to believe this is fact.

Big Hawk Chief's time was not and cannot be certified as records now are. All sort of techical questions can be raised about the distance, start, and the watch. Also Luther North may have been a flat-out liar, though this was not his reputation, and there were few men in his day who would have cared to name him so. On the other hand we do not *know* that Big Hawk Chief did *not* run 3:58 on that dirt racetrack, just as Luther North observed and solemnly reported that he had. For that matter we do not know that this was the Pawnee's best personal effort nor, even more wildly, that some or many other extraordinary men before had not run faster than he did. After all, for tens of thousands of years individuals have been highly, often mortally, motivated to cover ground as fast as their legs could carry them.

The moral is, perhaps—beware of chronological chauvinism.

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Bil Gilbert *is an award-winning author of numerous books and hundreds of articles. His latest volume is* Westering Man, *a biography of Joseph Walker now in its third printing (Atheneum, 1983).*

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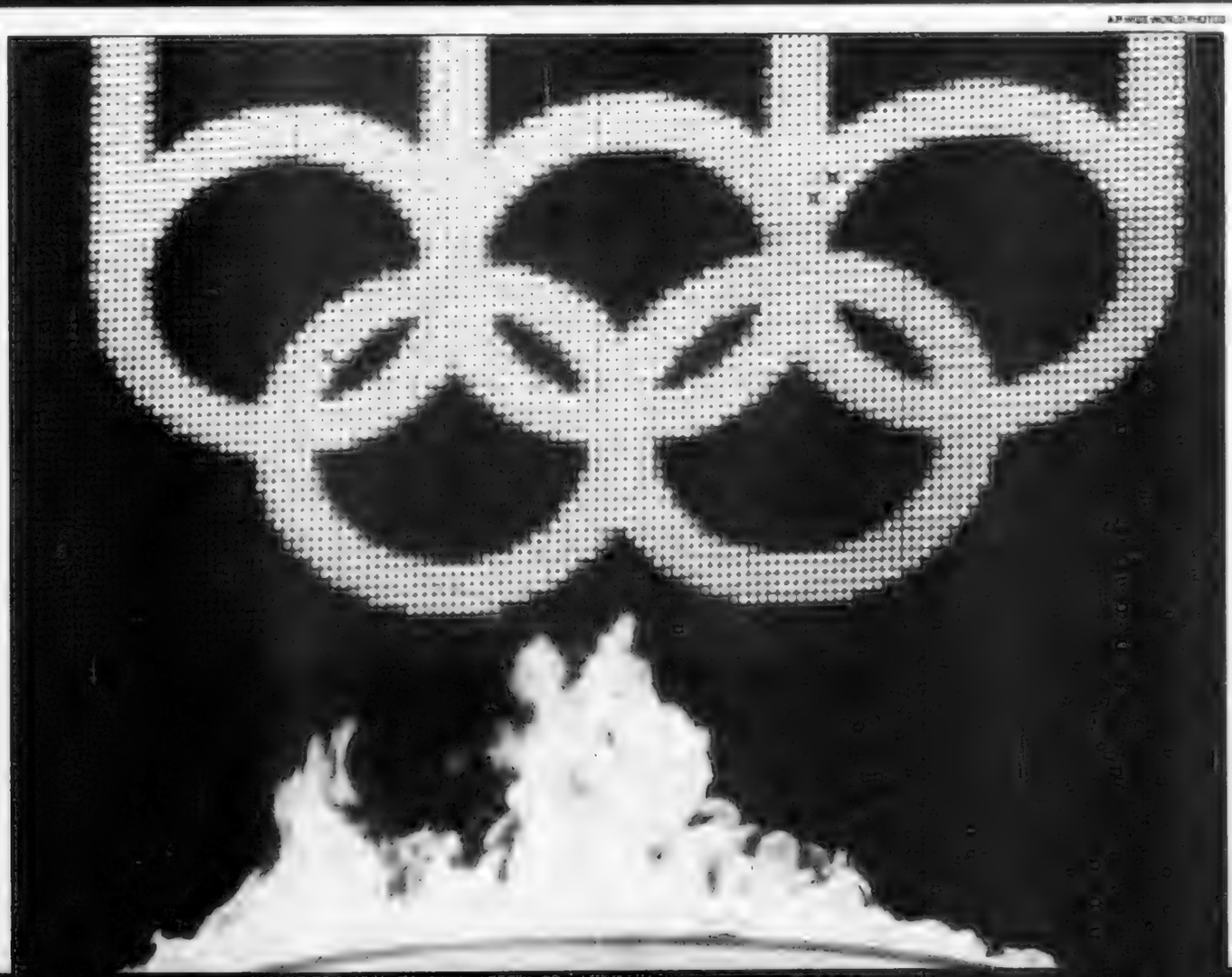
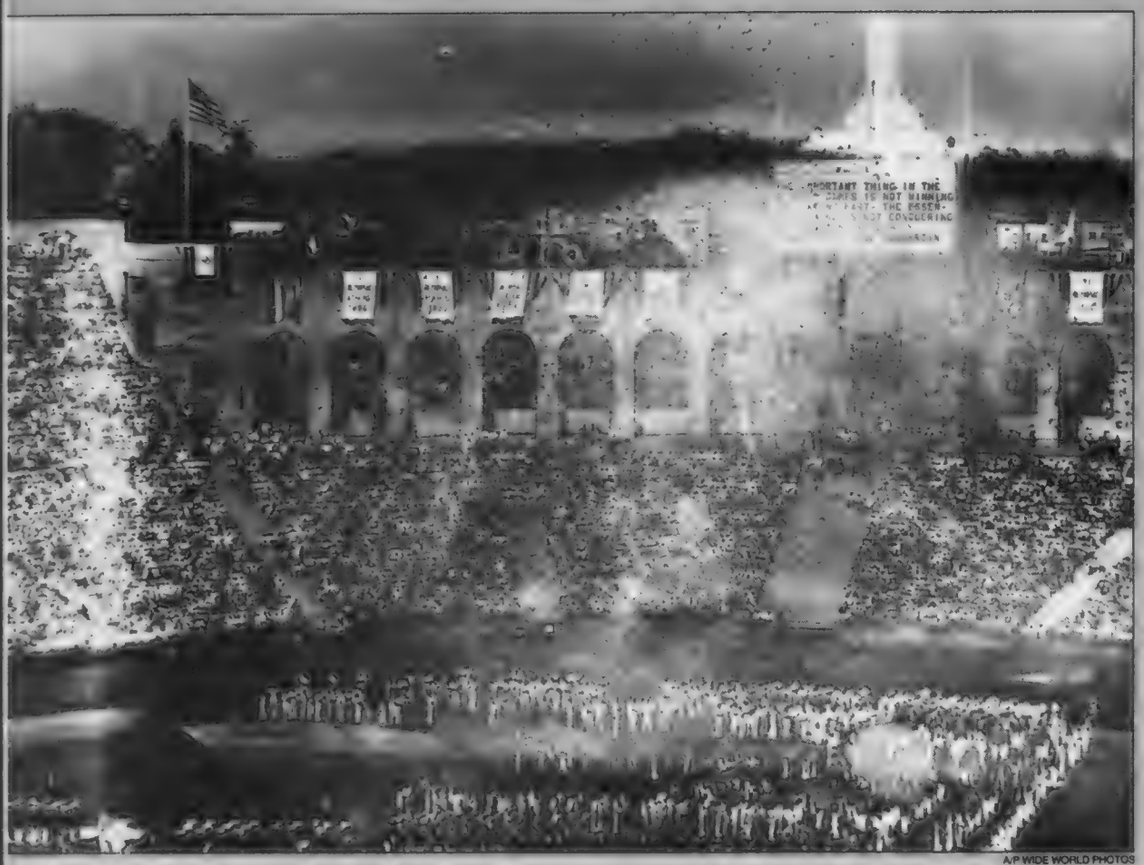
Curt Gowdy talks about Olympic Gold

A symbol of the sportsmanship of the ancient Greek games, the sacred fire burns during the length of each modern Olympics. As is the custom during opening ceremonies, the fire will be lit at Los Angeles this summer by a flame borne in relays from Olympia, Greece, site of the ancient athletic competition.

LOS ANGELES 1932 AND 1984





A/P WIDE WORLD PHOTOS

IT'S 1932. ONE-THIRD OF THE NATION IS UNEMPLOYED. Men are standing in soup and bread lines. Banks are closing. Some stock brokers are jumping out of windows. America is deep in the Great Depression. Yet, America is also hosting the biggest and most expensive sporting event in the world—the Summer Olympic Games.

Los Angeles was the host city, and to say there was a gloomy atmosphere about the financial aspects of the games was putting it mildly. Although there was no television at that time, and radio was just starting the coverage of sports because of its network block programming practices, the Olympics and other sporting events did not lie in the glare of attention that is prevalent today. Still, rumors can fly, and the press and public started spreading stories that things were so tough all over the world that many of the foreign countries could not afford to send their best athletes to Los Angeles.

Fortunately, as is the case for the Games this summer, many of the venues were already in place. The Los Angeles Coliseum, built ten years previously for a million dollars, would house the track and field events plus the opening ceremonies. It had a capacity of 105,000, large enough for any place, any time in the world. The track was composed of crushed peat and according to experts, was the fastest in the world. The sports writer Paul Gallico reported: "All of the athletes say that they have never enountered one like it. It is like running on a springboard."

Some events were staged in the Rose Bowl at Pasadena, others at the County Museum and the Riviera Country Club. These 1932 Games had the honor of setting up the first Olympic Village in Baldwin Hills, twelve miles southwest of Los Angeles. This was a self-sufficient city spread over 321 acres with 550 bungalows that would house 1,320 male athletes. The 127 women athletes stayed in a Los Angeles hotel.

The Olympic Auditorium seated 10,000 for the boxing and wrestling and other ceremonies. The swimming stadium held 12,000. An Olympic rowing course on Alamitos Bay could seat 17,000 with sideline arrangements, and thousands more could sit or stand on old mother earth.

Despite the pessimism and fear of depression, there was one shining light to these 1932 Olympics. The Los Angeles Organizing Committee was a real winner. The state of California had voted $1,000,000 toward the expense of running the Games. The City of Los Angeles floated a bond issue of $1,500,000 to play host. There was no big radio money available, and television was not in the vocabulary; so it was the drive, wit, enthusiasm, and marvelous planning of the committee that became one of the heartwarming stories in Olympic history.

Not until a few weeks before the Games did people start to read and hear about the departure of foreign athletes from their countries for Los Angeles. Some arrived in New York on the way to the West coast, creating a stir of publicity with their colorful uniforms. The fever spread across the country as people headed for Los Angeles by train, steamer, airplane, car—whatever.

July 30, 1932, was the opening day of the Xth Olympiad.

X^TH OLYMPIAD
LOS ANGELES 1932
OLYMPIC STADIUM PASS
THIS PASS
WILL ADMIT BEARER
To all events of the Games of the X^th Olympiad held in the Olympic Stadium during the period of July 30^th to August 14^th inclusive Nineteen Thirty-Two. Subject to the conditions on the back hereof.
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ROW
SEAT
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PRESIDENT XTH OLYMPIAD COMMITTEE

COURTESY WALTER REINIGER

While athletes from various countries were assembled on the field of the Los Angeles Coliseum, doves were released in the impressive opening ceremonies at the 1932 Olympics. On the column beneath the Olympic beacon, a quotation from Baron Pierre de Coubertin, father of the modern Olympic Games, describes the spirit of the competition as he envisioned it. Though a banner was displayed for the VIth Olympiad, scheduled for 1916 in Berlin, those Games did not take place because of World War I. A modestly garbed, youthful athlete, holding a heavy victory wreath, decorated the stadium pass for the 1932 Games. Visitors to this year's Games will note with wishful nostalgia that the pass admitted the bearer "to all events of the Games of the Xth Olympiad held in the Olympic Stadium" for the sum of $22.

Over 100,000 poured into the Olympic stadium for the colorful opening ceremonies, the largest crowd in Olympic history. Vice-President Charles Curtis represented President Herbert Hoover, who was on a fruitless campaign trail. The ceremonies were colorful and touching. As the athletes started their exit march, a feeling spread over the crowd. A spirit discovered about the Olympics and what they are all about. An attitude that was caught up by the fans on hand that day and which continued through the next two weeks.

For two weeks the weather was magnificent. The crowds were fantastic. On three different days, the stadium was sold out at 105,000 people. A throng of 80,000 lined the rowing course to watch the California Golden Bears grab the gold medal. Day after day the athletes shattered records. There was an affection, an understanding, a joy among the athletes and citizens of the United States about these games. Maybe it was the release from tension and worry about the depression. Sure, sports are the great escape. They can take you to another world—a world far away where you imagine yourself flashing down the track in the sprints or splashing in the Olympic pool to yet another record.

In these 1932 Olympics, the athletes caught the fever, too. Records were smashed daily. The American team entered these Games with vengeance to make up for a sad showing at Amsterdam in 1928. The sixty-eight-man U.S. track and field team would capture eleven of the twenty-three events, establish ten Olympic records and break five world records. No other nation won more than three championships. There would be no legend coming out of these Games; no Jesse Owens, Mark Spitz, or Eric Heiden with a cluster of gold medals clanging around the neck.

EDDIE TOLAN, A SMALLISH SPRINTER FROM MICHIGAN, was the only double winner, setting a world mark at 100 meters and an Olympic mark at 200. Finland proved to be America's sternest competition in track and field, even without the great Paavo Nurmi who had been declared a professional.

The Japanese men were surprising in the swimming. Four different Japanese won individual honors, and three of them broke Olympic records. Clarence "Buster" Crabbe was the lone American winner, breaking the Olympic record in the 400 meter freestyle. The gold medalist would also ease his way into the movies, becoming "Tarzan of the Jungle." Our women swimmers were the best, sweeping six out of seven events.

All in all, gold medals were scattered everywhere, returning to all parts of the world. But there was one figure of these 1932 Olympics of heroic nature—one athlete so talented that myths and legends could be told and retold for years to come. The standout of the 1932 Olympics was an eighteen-year-old, wiry, Texas girl named Mildred "Babe" Didrikson. She not only captured gold medals in these Olympics but also stole the hearts of everyone who came to know her because of the "Babe's" open personality, charm, and honesty.

Two weeks before the 1932 Olympics, Miss Didrikson accomplished a feat that is still hard to believe. At Northwest-

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ern University's field, a team from Dallas won the women's track and field championship. This team won first place in the shot-put, javelin throw, broad jump, baseball throw, and 80-meter hurdles. The team tied for first place in the high jump and scored a fourth in the discus throw. The team was comprised of one person, "Babe" Didrikson.

Two weeks later, the Texas girl entered the Olympic Games. Under special ruling, she could enter only three events. She wanted to enter six but had to decide on the javelin, hurdles, and high jump. On the first day of her competition, she broke the world's record in the javelin throw. She later broke another world's record in the hurdles race. In the high jump, she broke still another world's record but tied with Jean Shiley. In the jump-off, at the same height, both girls cleared the bar, but "Babe" was disqualified for diving over the barrier and had to settle for second place.

She could play basketball, baseball, and tennis. After the Olympics, Miss Didrikson became a national heroine. She turned professional and began playing serious golf. In the late 1940s she won seventeen consecutive golf tournaments, an all-time record. She was voted the finest female athlete of the first half of the twentieth century, while Jim Thorpe won the best male althlete award for the years 1900–1949.

I started as a young sports broadcaster in my hometown of Cheyenne, Wyoming, in 1943. One day a huge bear of a man named George Zaharias wandered into our studios to buy some radio spots for publicizing some wrestling matches he was promoting in our town. I interviewed George on my sports show and liked him. He was friendly and intelligent. I remember him telling me that on his next trip to Cheyenne from Denver, he would bring his wife, "Babe," with him. He did, and that is how I got to know this wonderful woman. She had a great personality and spread warmth everywhere.

I can still remember sitting in their Denver home and listening to stories of her girlhood days in Texas, yarns about the pro women's golf circuit and recollections about those "wonderful 1932 Olympics," as she called them. "Biggest thrill I ever had," Mrs. Zaharias told me. "Competing against the best in the world. Just wished I could have entered more events. I'm not braggin' but I would have broken more world records too."

Babe Didrikson Zaharias was not bragging. She was simply stating her honest conviction. It was with sadness that I read in 1956 at my home in Boston that Mrs. Zaharias had died at the age of just forty-two after a determined battle against cancer. She was one of the finest persons I ever met.

The 1932 Olympic Games came to an end with the closing ceremony with 100,000 spectators looking on. The Olympic flag was lowered, "taps" was played by a lone bugler as the Olympic flame slowly diminished and then went out. These Olympics proved to America and the world just what a determined group of citizens from the Los Angeles area could do when you have hope and work tirelessly together. The tragedy and gloom of the Great Depression was still in America, but the Games gave this country some positive thoughts for the future. The athletes caught the spirit, too, with record-shattering feats.

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Showing the form of a Grecian god, John Anderson of the United States won the discus throw in 1932 with a toss of 162 feet, 4½ inches, an Olympic record at the time. Anderson's throw was more than 7 feet further than the previous record. Clearing the first barrier in the women's 80-meter hurdles, at far right, is the wonder girl of the 1932 Olympics, Mildred "Babe" Didrikson, from Texas. The Babe took a gold in the hurdles with the record-breaking time of 11.7 seconds, another gold in the javelin throw with a record-breaker of 143 feet and 4 inches, and a silver after a disputed disqualification in the high jump. The lovely bathing beauty is Eleanor Holm in attire that was described in 1932 as "a new low-cut silk bathing suit." Miss Holm won the women's 100-meter backstroke for the United States in 1 minute and 19.4 seconds, then an Olympic record.

Now, fifty-two years later, Los Angeles is to play host to another Summer Games. What will be the difference between the two Olympics? For one thing, the world is different fifty-two years later. The athletes still run and jump. The swimmers still splash and dive. The Olympics of today will stage more events, schedule newer sports that over the years have been officially accepted as Olympic events.

THE ATHLETES OF 1984 WILL RUN FASTER, JUMP higher, swim better, row stronger than those of 1932. The men and women of today are bigger, stronger, and better-trained under sophisticated methods including psychology, movies, video tape, scientific nutrition, and medical knowledge. The record-shattering marks of 1932 are seconds slower and feet less than those that will be turned in by the athletes of 1984.

However, there is one common thread—competition. The event. The striving against the best in the world in a particular time-frame of this twentieth century.

The main difference between 1932 and 1984 is big business. Most of my sports broadcasting has been spent during what I call the innocent days of sports: the 1950s, 60s, and early 70s. During those days, there was just a sprinkling of sports law suits, court cases, lawyers, agents, million-dollar contracts, and tremendous television contracts. During those innocent days, athletes wanted to make all the money they could, but the "game" seemed to be the thing. I remember Ted Williams once saying to me, "I want to make all I can because I grew up in San Diego during the depression and remember how tough it was. But you know, Curt, the really most important thing in my life is hitting a round baseball squarely."

Again the City of Los Angeles has come up with an outstanding Olympic Organizing Committee headed by Peter Ueberroth. I know a little something about this committee, because I was interviewed for the job as director of the organizing committee. I remember Mayor Tom Bradley telling me in his office, "Mr. Gowdy, these Games must not cost the City of Los Angeles one penny in extra taxes." It appears that the Organizing Committee has managed affairs brilliantly.

These Games are big business. This to me is the largest difference between 1932 and 1984. In 1932 there was no television, now the foundation for most big events and sports leagues financial success. ABC-TV will pay the Los Angeles organizing committee $225 million for the rights to televise the Games. World TV rights will bring in $56 million more, making a total of $281 million revenue for these Olympics. If you had told the members of that 1932 committee about those kinds of numbers, they would have had you locked up. Out of that TV revenue, the Los Angeles Olympics must hand over $48 million to the International Olympic Committee.

The organizing committee figures on $117 million in ticket sales and over $100 million for merchandising rights to U.S. corporations. Roughly they are figuring $497 million for expenses with an income of $513 million. This comes out to a projected profit of $15½ million. Extraordinary! Consider that the Soviet Union spent $9 billion for buildings, a stadium, and

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running their Games in 1980. The losses must have been staggering. Montreal lost $1 billion from the 1976 games. The financing is to be paid off by the year 2020. It was a healthy whack in the tax pocketbooks of Montreal citizens. Incidentally, the 1988 games in Korea are expected to bring in a television bid of $750 million.

Another major difference between the Olympics of 1932 and 1984 will be the subject of security. There was no terrorism in 1932, no fear of murders or bombings. The crowds gathered in Los Angeles were well behaved. Old newspaper clippings describe the people as being somewhat in awe of the daily spectacles, with true appreciation for the athletes' performances and the staging of events. A real feeling of international friendship surrounded these Games with the thirty-nine nations all sharing the effects of the economic blight that had spread over the world. These Games gave everyone a welcome escape.

The 1972 Games produced the shocking tragedy of the Munich Olympics. Since then, security has become a vital necessity to an Olympic Games. I was in Montreal in 1976 where the security was tight and well organized. There were no incidents.

Los Angeles must be well prepared. They do not talk about it or reveal plans, and that is security itself. We do know that the largest single expense for the 1984 Olympics will be security. These Games must reimburse all different agencies (city, county, and state) from which the Olympics will receive police help. No one talks about the amount spent for security, but it must be staggering.

Another era, another time brings about another difference between the 1932 Olympics and those of 1984. The ugly subject of drugs. Old-timers cannot remember the terms of marijuana, coke, heroin, steroids, and uppers. Drugs are part of the world's culture now, and you have read about drug use by athletes in the recent Pan American games and by some of our professional and amateur athletes.

There will be strict drug testing in the '84 Olympics. Absolutely no chemistries will be allowed. The most sophisticated drug testing center will be established for the Los Angeles Olympics. When the Games are over, the drug testing center will be left on campus as part of the University of California at Los Angeles Medical Center.

A MODERN OLYMPIAD IS BIG BUSINESS, OVERLY commercial, with the innocent spirit of the 1932 era gone forever. Yet, when the opening ceremonies begin and the athletes begin to compete, it is still a thrilling experience for everyone involved.

A personal story to explain this: During the 1976 Olympics, I had an open day and asked ABC for a couple of tickets to the afternoon track and field events. I especially wanted to watch the 400-meter event because I had heard so much about the ability of Alberto Juantorena of Cuba. He had been running only a few years, giving up basketball for track. They told me he was a powerful athlete, big enough even to play pro football in this country, which, of course, could never happen.

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Clarence "Buster" Crabbe took a gold for the United States in 1932 by winning the 400-meter freestyle in 4 minutes and 58.4 seconds, then an Olympic record. Crabbe's handsome features and athletic physique won him the movie role of Tarzan the Ape Man. In leopard loincloth and carefully coiffed hair, he was a proper matinee idol in* Tarzan the Fearless, *an RKO picture, 1933. After losing its game with Germany, the Brazilian water polo team attacked the referee, Hungarian Bela Komjadi. Spectators and policemen joined in the ensuing riot, and officers spirited the referee away to a safer place. The Brazilians objected to Komjadi's decisions, but Komjadi said, "The Brazilians have no idea how to play water polo." Because of this incident, the Brazilian team plus three of Brazil's star swimmers were barred from further competition in the 1932 Games.

OLYMPIC GOLD

1932 Olympics			Olympic Record		
Only partial listings given					
Track and Field—Men					
100meters	Eddie Tolan US	10.3s	1968	James Hines US	9.9s
200m	Eddie Tolan US	21.2s	1968	Tommie Smith US	19.8s
400m	William Carr US	46.2s	1968	Lee Evans US	43.8s
800m	Thomas Hampson GB	1min49.8s	1976	Alberto Juantorena CUBA	1min43.5s
10,000m	Janusz Kusocinski POL	30min11.4s	1972	Lasse Viren FIN	27min38.4s
110m hurdles	George Saling US	14.6s	1972	Rodney Milburn US	13.24s
400m hurdles	Robert Tisdall EIRE	51.7s	1976	Edwin Moses US	47.64s
Marathon (42,195m)	Juan Carlos Zabala ARG	2h31min36.0s	1976	Waldemar Cierpinski GER DEM REPUB	2h9min55.0s
400m relay	United States	40.0s	1972	United States	38.19s
1600m relay	United States	3min08.2s	1968	United States	2min56.1s
High jump	Duncan McNaughton CAN	6ft5½in	1980	Gerd Wessig GER DEM REPUB	7ft8¾in
Long jump	Edward Gordon US	25ft0¾in	1968	Robert Beamon US	29ft2½in
Pole vault	William Miller US	14ft1⅞in	1980	Wladyslaw Kozakiewicz POL	18ft11½in
Shot put	Leo Sexton US	52ft6⅛in	1980	Vladimir Kiselyev USSR	70ft0in
Discus throw	John Anderson US	162ft4½in	1976	Mac Wilkins US	221ft5in
Hammer throw	Patrick O'Callaghan EIRE	176ft11in	1980	Yuri Sedyh USSR	268ft4in
Javelin throw	Matti Jaervinen FIN	238ft6½in	1976	Miklos Nemeth HUN	310ft4in
Decathlon	James Bausch US	6,896pts	1976	Bruce Jenner US	8,618pts
Track and Field—Women					
100m	Stanislawa Walasiewicz POL	11.9s	1960	Wilma Rudolph US and	11.0s
			1968	Wyomia Tyus US	11.0s
400m relay	United States	47.0s	1980	East Germany	41.60s
High jump	Jean Shiley US	5ft5¼in	1980	Sara Simeoni ITALY	6ft5½in
Discus throw	Lilian Copeland US	133ft1¾in	1980	Evelin (Schlaak) Jahl GEM DEM REPUB	229ft6½in
Javelin throw	Mildred Didrikson US	143ft4in	1980	Maria Colon CUBA	224ft5in
80m hurdles	Mildred Didrikson US	11.7s	1968	Maureen Caird AUSTRALIA	10.3s
Swimming—Men					
400m freestyle	Clarence (Buster) Crabbe US	4min58.4s	1980	Vladimir Salnikov USSR	3min51.31s
Swimming—Women					
100m freestyle	Helene Madison US	1min06.8s	1980	Barbara Krause GER DEM REPUB	54.79s
400m freestyle	Helene Madison US	5min28.5s	1980	Ines Diers GER DEM REPUB	4min08.76s
100m backstroke	Eleanor Holm US	1min19.4s	1980	Rica Reinisch GER DEM REPUB	1min00.86s

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Eddie Tolan, black athlete from Detroit, gave the United States a win in the 100-meter dash in 1932 with a time of 10.3 seconds, then an Olympic record. Tolan (with arms upraised, nearest the camera) and his teammate Ralph Metcalfe of Marquette University broke the tape in what appeared to many spectators as a dead heat. The judges on the elevated blocks at the finish line declared Tolan the winner, and the pictures developed from the electro-photographic timer supported them. Tolan beat Metcalfe by about two inches. Two days later, "little" Eddie Tolan won the 200-meter run in 21.2 seconds, also a new Olympic record.

My wife Jerre and I went to the beautiful Montreal Olympic Stadium on a gorgeous August afternoon. The place was jammed. The sights were stunning with flags of all the nations rippling atop the stadium in the delightful breeze.

My wife is not the most avid sports fan—so I tried to explain what was about to happen when the call came for the eight men left for the finals of the 400-meter race.

"Here they come," I pointed out to my wife. "These are the eight best left in the world. Most of them have been training for years for what will happen in the approximate forty-five seconds after the gun goes off.

"Notice there are different colors of skin from the different nations. Those are sweat suits they are wearing for the warm-up. See them jogging and stretching to get loose."

A whistle blew. "What's that?" Jerre asked. "That's the call to the starting blocks," I answered. "Now, remember that several of the best had bad luck. Illness, a pulled muscle or an off-performance in the trials. So, luck has to be present, too. When these eight finalists go to their starting blocks, one of them is going to win the gold medal and will be a hero the rest of his life in his country. Just a few seconds will bring the winner a lifetime of recognition."

"I never thought of it that way," my wife answered. "It's thrilling. What an honor for these men to be down to the final eight."

The gun cracked. Juantorena got off to a slow start, then began to pour it on with his powerful frame and smooth form. He sped by several runners, flashed around the big curve at the far-right end and hit the straightaway for the finishing line. His big chest hit the tape in 44.26 seconds, the third fastest 400 meters in Olympic history.

Juantorena jogged around the track holding his fists high in the air with one finger extended from each fist. Numero uno indeed. Later he went to the medals platform to receive his gold medal as the band played the Cuban national anthem. Alberto had already set an Olympic record in the 800-meter event, the first man to capture the 400- and 800-meter events in the same Olympics.

As Jerre and I left the stadium on the way back to our hotel, she squeezed my hand and said: "You're right. The eight best left in the world after years of getting ready. It was one of my best afternoons. Now I know what the Olympics are all about."

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CARAVAN WEST

Family survival during hard times on the Colorado plains

by Vern Berry

"WHY NOT COME ALONG?" DAD URGED. "YOU'D FIND work out there!" My parents were moving the family from Iowa to "healthy" Colorado. It didn't take much persuasion. Life was easy in 1927. My adventurous young husband had been raised on Zane Grey's books. Why *not* go see the West?

"Honey, if we don't like it there, we can come back," Rex coaxed. Jobs were everywhere—if you wanted one, and I could live anyplace with Rex and our baby, Barbara. I began to visualize a darling little home in Colorado. So we decided to leave a good job and start on a big adventure.

Dad drove an old Reo truck with the furniture. Mom stuffed the big, passenger Velie with her most prized possessions, her rubber plant on the seat beside her. Two extra chairs were tied on top, and a big trunk of walnuts was strapped to the back. No walnuts in Colorado! We followed in our nifty Model T. My little cedar chest fit neatly between the seats, while luggage rode on the running boards.

About the first of July 1927, with great anticipation, our caravan headed west out of Davenport, Iowa, on the new Lincoln Highway, marked by red, white, and blue striped telephone poles. It would lead us most of the way. The first day we drove only thirty miles as the two back tires on the overloaded truck blew out, and we had to unload the Reo, store some of our belongings, and then load the truck again. Thus we began a six-year odyssey of hardships. Money vanished. Values changed. Necessities became luxuries.

No motels lined the highways then. No hamburger stands were yet on the roads. We had no ice chest, or thermos to hold tempting cold treats. It took seven long days to reach Colorado. The dusty road led on and on. Sometimes the paint was faded on the telephone poles, or they were hidden by high weeds. At many a crossroad, my parents sent my young sisters running in all directions to find our "sign."

We pitched our big tent each night in a schoolyard or court square. Such a caravan usually announced a show in town, and one old codger mistook us for the coming carnival. "You be the show people?" he inquired of Dad, who was always anxious to talk to local people. It seemed funny to us. However, my Mom and Dad, my three teenaged sisters, and Rex and I and Barbara, all meandering around a tent, with supper cooking on a pump-up camp stove, must have signaled some kind of a special troupe.

One evening, while crossing a congested bridge across the Missouri River, the tired old truck coughed, snorted, and died. A long line of frustrated drivers on their way home from work soon came to a halt. A traffic cop appeared screaming, "Move that confounded thing off this bridge!" With a helpless gesture, my Dad answered, "Mister, if you can move it, get in." My husband jumped out of the Ford and ran to help

ILLUSTRATIONS DRAWN FOR AMERICAN WEST BY LIZ TANG HERRICK

Dad, leaving a startled me and the baby.

Now the Ford and I had never met on a personal basis, but I was quickly introduced. After the truck limped off the bridge, I knew that I had to do something. I slid under the wheel trying to remember the starting procedure. I put the clutch pedal down, then let it out. WOW! I jerked and lurched off the bridge and out of traffic. After that experience, I drove my share of the time.

The days slipped by, mostly uneventful. After the chairs had shifted perilously on the roof of the Velie, they were discarded with reluctance. Then the trunk of walnuts was set by the side of the road. My mother cried, "My cooky recipes need nuts—you'll not find them there!" I realized then that Mom was not happy with the move. We remembered the trunk of goodies many times in the meager years that were to come. We often wondered about the finder. A whole trunk of black walnuts just sitting there for the taking, somewhere on the Nebraska prairie.

WHEN THE MOUNTAINS BEGAN TO SHOW LIKE LOW clouds on the horizon in Colorado, we started to look for a sign, nailed to a post and pointing south, "Twenty Miles to Bennet." There we turned, meandering across the unfenced fields, scaring the thousands of little prairie dogs into their holes, and avoiding the cactus growth in the little-used tracks. White elevators against a blue-blue sky were a welcome sight. We felt such relief. Seven, long, hot, dusty days in open cars had finally brought us here. At last our great dream could begin.

However, a big disappointment awaited us. There was no house to rent. My Uncle, a weathered, old homesteader, greeted us with the news. "Now folks, you'll just be coming in with us till something turns up." His big heart moved us all in with him and Aunt Annie. They had a four-room, rough-lumber house. It was all he had needed some years earlier to earn his homestead. Aunt Annie took it in stride. She dressed an extra chicken or two from her cackling barnyard and doubled up on the cornmeal mush she served at supper time. This was my first lesson in true hospitality.

Not to be discouraged, Dad and Rex were able to borrow two cook shacks from the county. They hauled them into the dooryard and placed them side by side, cutting a door from one to the other. We scrubbed the ugly, wide-board floors and moved in. The tar-paper roof sizzled under the summer sun, and the big black cookstove made it almost unbearable—a far cry from the pretty little home I was looking forward to. No use to unpack my cedar chest here.

It was wheat-harvest time. The men used the truck to haul wheat from the fields to the big elevators. They quickly adjusted to this new life. Every morning early, they drove away, following the big threshing machines—at noontime, eating bountiful dinners prepared by hard-working, prairie, farm wives. They delighted in working under the big blue sky. Even the old truck took a new lease on life and chugged away happily in this new role. The men came home at supper time, tired and dirty, with pay for the day. After supper they cut up wood for the monstrous, gobbling cookstove.

Life was most discouraging for Mom and me. We had to carry water in, then out. We washed clothes on a board in a tub, outside. We had to heat irons on the stove. It never ended. Wash, then iron for the eight of us, then start all over again. No pretty curtains, no closets. Our things hung on nails around the shack. No bathroom. We shared Aunt Annie's outhouse. My pretty things waited in the cedar chest. Sometimes, I opened the lid and admired what I had brought for our dream home in the West.

My sisters soon fit into the prairie life. Plenty of boy friends came to squire them to weekly dances. Picnic trips to the mountains or a day in Denver made an exciting summer for them. Mom and I had to struggle to keep some kind of a home without the comforts we were used to. The sky was so blue. The clouds were so dreamy and fluffy white. Where was our little dream home in the West?

Our first encounter with a Colorado hailstorm was something less than spectacular. On a bright day, with golden wheat waving ripe and ready, a sudden angry sky and wind appeared. In an instant the devastating hail left only stubble to taunt the disappointed farmers. Thus halted the job of

hauling wheat. There was none left to haul.

The tar-paper roof, riddled with holes from the merciless hail, wasn't much protection from the torrents of rain that followed. My young sisters, close to being hysterical, laughingly raised an umbrella and sat in the middle of a bed to escape the rain dribbling through the roof. Laughter *is* next to tears. During the storm a crock of bread dough waited in the back of the stove and bean soup simmered for supper. After it was all over and our tears of despair had ended, Mom calmly made out the pan biscuits for supper, and I tried to clean up the mess. The mountains shimmered with a beautiful haze in the distance. We ate supper. Despair and disappointment etched our faces as we sat around the table.

One day Rex came in with exciting news. "Honey, I'm going to work for the Ford garage. I found a little empty house on the edge of town, too." Joy of joys! Hand in hand, we looked at the little box of a house. Nothing could have ever been so beautiful. Suddenly life was fun again. We bought a kerosine stove. It was blue and had a little oven to place on a top burner. Rex built a little drop-leaf table. We bought dishes and pans from our dwindling pocketbook. We borrowed a chair and a rocker. I unpacked my cedar chest. O happy day!

I ENJOYED UNPACKING MY PRETTY THINGS, GETTING acquainted with the neighbors, and learning to cope with scarce commodities in the little town. There were no rows of colorful vegetables to choose from, only tins of tomatoes, corn, or peas. Smoked meats and canned salmon or sardines were the only choices. I did get plenty of milk and farm eggs from my folks who had settled on a nearby sharecrop ranch.

One Sunday, a carload of people drove into our yard. Thus I was introduced to Sunday Visiting. Either *you* went visiting, or someone *came* visiting—unannounced.

"Come in." I called, wondering what to feed them.

"We came to make you welcome!" the sun-weathered woman exclaimed. "Are you home today?"

Canned salmon, kidney beans, and peaches looked at me when I checked the pantry. With lots of friendliness, I served them salmon loaf and kidney-bean salad. The big hit was the warm biscuit shortcakes with canned peaches.

"I never heard of peach shortcake!" an elderly lady said admiringly. Well, neither had I. I quickly learned to improvise and substitute, or do without. That was the blueprint for survival in those early Depression years. To keep pride and dignity in your homemaking, with little available to help, was a challenge indeed.

We made our own entertainment, as there was no television, no radio. The men would get up a ball game, while we women visited and talked over family happenings. In the winter, we spent hours playing cards.

The big event of the week was the Saturday night dance. It cost one dollar to dance to a live band from Denver. A midnight lunch was thrown in. Whole families attended, with little children going to sleep on benches that lined the walls. The little towns were thirty to forty miles apart, and whole towns shifted from one place to another to dance to "My Blue Heaven" and "Sleepy Time Gal" on Saturday night.

Church services were held in the schoolhouse. The straight-laced preacher frowned on dancing; so his congregation was small. Living was frugal after the hailstorm, and people needed that night of frivolity. They actually lived by the Golden Rule in their everyday dealings. Each man shared and helped his neighbor. This was the code of the West.

By springtime the Great Depression had slowed everything to a halt. We no longer had money to buy the already scarce commodities. Old Mother Nature, as if protesting, began to kick up dust storms. The desperate ranchers planted and replanted seeds, only to have them blown away in a fury. The brown rolling clouds of dust sent everyone for cover. Relentlessly, for three days at a time, the wind swirled and blew dust and tumble weeds against fences until no fences remained. It ruined everything in its path. In defiance I planted flower seeds and carried buckets of water, yearning for the green gardens of Iowa. Not a single seed ever came up.

Money almost vanished. The old system of bartering helped us survive. Our rent was paid by fixing the landlord's car. A carburetor was exchanged for two chickens or some potatoes. I cooked sweet potatoes in dozens of ways, because a trucker paid his bill to Rex with a bushel of sweet potatoes. Everyone was in the same predicament. If I had flour and my neighbor had eggs, we made a cake together and shared it. There was no thought of vitamins or nutrition. When the pepper or spice can ran empty, I had no pepper or spice. Coffee was only twenty-five cents a pound—but coffee was served only at special occasions. It was a daily challenge to

get something on the table. I sewed dresses for Barbara from castoffs until the last sewing-machine needle broke. I can't describe the helpless, hopeless feeling. What broke or wore out—we just had to do without.

It is strange, but the Christmas with no money is the Christmas I remember the most vividly and happily in my long married life. We used a tumbleweed for a Christmas tree, and I made little popcorn balls to tie all over with bits of yarn. Barbara's eyes lit up with joy. I made doll clothes from scraps and fixed a bed from a box. No little girl was ever more thrilled.

WRITING TO FRIENDS AND RELATIVES HAD TO STOP, too, as there was no cash for stamps. They were three cents a piece then. After the Ford dealer had to close down his business, Rex opened a repair shop on his own. And so by bartering, we managed to get by. No one had a dollar for a dance anymore.

Even in bad times, life and love go on and somehow grow stronger. When I knew I was pregnant, we couldn't imagine where we would get the money for a doctor. Maybe things would get better. Other people had babies. God would provide a way. Even the blue Colorado sky had turned to murky brown most of the time. I began to long for the Saturday night dances and the fun we young people should be enjoying.

"Rex, do you think we could risk holding a dance? Would people come? Maybe we could pay the doctor," I urged. Anyone could put on a dance. Just rent a hall and hire a band, but the band alone would cost $50. We decided to take a chance. We rented the school gym and hired a band. What if no one came? We were grasping at air to find a way to raise money for a doctor. No one suspected that the stork was coming. Pregnant ladies didn't talk about it and never went to dances.

The big night arrived, and people came in droves. "Oh thank you, God." I breathed a prayer of gratitude. Our spirits rose with the happy tunes and laughter rang from the throats of worry-ridden neighbors. Late that night we counted the stacks of silver dollars that would pay for bringing our baby into the world.

Right on time, and with the help of the old country doctor, our red-headed, ever screaming daughter came into our lives. It was as though she hated the world. She rebelled at everything. Nothing agreed with her. While we tried every available food, including goat's milk from a sympathetic neighbor, we watched her grow thinner. No pediatrician was near. Only a mother's arms night and day and the final resort of feeding her crumbled toast and soft egg, finally got her over the hump and on the way to being a sweet little daughter.

Hard times mold fine people. The good in everyone shines out. I loved all the wonderful friends we had. We found simple, fun things to do. The town flooded a low place, and anyone who could borrow skates flew around on the ice, having fun and working off frustrations. We played cards. A cake was a rare and wonderful treat. We shared it with someone else. We didn't need tranquilizers or nerve pills. We gathered books and started a library. How wonderful it was to spend the dark hours beside a brightly burning mantle lamp and lose oneself in a good book.

Periodically the dust storms continued. To be caught in one was like driving in a blizzard of pure dirt. No grass surrounded the houses. No flowers or trees would grow. The fields were dormant—seeds blew out faster than they could be planted. We began to think of giving up and going home, if we could scratch together money for the trip back.

Then came Roosevelt and the New Deal. His fireside chats gave us hope. We yearned for the green of Iowa. We huddled where there was a radio and discussed the upheavals in Washington. The dust storms kept coming. Roosevelt couldn't stop them with *any* program. We realized that prosperity would come to the Eastern states first. For six years we had struggled, made do, made over, or did without.

We didn't find our storybook life in Colorado, but the experience tempered and tuned us into mature, able-to-face-anything adults. Many people lost their homes or ranches. Nothing is as sad as a deserted farm home with empty windows, like sad eyes. We just drove away and left our repair shop.

Destitute, but not defeated, we turned the Ford to the East, with the cedar chest between the seats and our two little girls on the front seat. I sat in back because a window was broken out.

We had survived.

Now widowed, Mrs. **Vern Berry** *lives in Bettendorf, Iowa, to be near her two daughters in Davenport. She does free-lance writing and says that she is enjoying her golden years.*

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Paiute Revenge

Grisly crime brought threat of massacre

by Sally Zanjani

THE TROUBLE THAT WOULD BRING THE THREAT OF Indian massacre to settlers in the small California town of Bridgeport began when a riderless horse appeared at Nevada's Walker River Indian Reservation at the beginning of summer in 1891. A group of Paiutes led by Captain Charley immediately set out in search of its owner, Poker Tom. He had last been seen a month and one-half earlier when he went to trade furs at Bridgeport, just east of the Sierra Nevada in the fertile Big Meadows region nearly ninety miles southwest of reservation headquarters. After the Paiute party reached Bridgeport on Tuesday, June 2, 1891, and began asking questions, their attention quickly centered upon a restaurant and gambling house operated by a Chinese named Ah Quong Tai.

To Indian patrons, Tai's had long served as a good place to come in out of the cold. Winter temperatures below zero are not uncommon in this region, and the snow piles high on the naked cliffs of the Saw Tooth Ridge west of town. In the words of a miner who had experienced one of these bitter winters in the nearby mining camp of Bodie, there was "nothing to do but hang around the saloons, get drunk and fight, and lie out in the snow and die."

Day after day in the thickening gloom of the brief winter afternoons, the small, sulky-faced Tai, his long queue trailing down to the floor, dealt the cards to his Indian customers. The Paiutes loved gambling; for ages past they had delighted in

A Paiute family poses by their lodge on the Walker River Reservation in Nevada near the end of the last century. Paiutes from that time and place played a role in the tragic events recited in the accompanying story.

the harvest powwows where they sat and sang and swayed, wagering on which member of the opposing team held two small bones concealed beneath the blanket on his lap. Gamblers from boyhood, they quickly learned the games of white men and Orientals. Poker Tom's name undoubtedly attested to his passion for cards. But it may be that few played with greater intensity than Quong Tai himself or lost more heavily.

Nothing remains long concealed from a Paiute tracker. When the Paiutes began carefully combing the fields and hills around Bridgeport for some sign of Poker Tom, they found a bundle of calico he had purchased, his saddle, and his saddle blanket in a field north of town. Indian court convened in repeated sessions, the judge squatting in the sagebrush with his hat pulled low over his face and the witnesses telling their stories with respectfully downcast eyes. Someone had heard Tom say he had won fifty dollars from Tai and meant to leave town before he lost it in another game, a resolve he apparently failed to keep. Five Indians who had found the door of Tai's store locked on the following night peered through a hole in the curtain and saw Tai and Poker Tom playing cards inside. A loud discussion among the assemblage followed each witness's appearance. The next day, Wednesday, the Indians dragged the Walker River with light poles. When they pulled out Poker Tom's black, waterlogged coat from a deep pool near the dam, Indian women began a dismal lament for the dead. As the women rushed across the marshy ground toward the river, their bright calico dresses became entangled in a barbed-wire fence, and onlooking law officers broke into loud guffaws.

It was the last time Bridgeport's inhabitants would find any humor in their increasingly precarious situation. More Indians were converging upon the town, from Mono Lake to the south, from Bodie to the east, and even from Pyramid Lake Reservation far to the north. In the Carson Valley, their night fires seemed like stars fallen on the Pine Nut Hills, whether campfires or signal fires is not known. After the pine nuts and venison the Indians had brought for their journey ran low, they demanded *hog-a-di* (food) from Bridgeport housewives and perched on woodpiles to consume their meals. No one dared refuse an Indian at the doorstep.

During Wednesday afternoon, an Indian woman known as Tai's close companion apparently succeeded in briefly diverting suspicion from Tai to her own husband and his relatives. Poker Tom's brother threatened to kill someone before morning, and the Indians divided into factions, the Bridgeporters being extremely reluctant to make camp with the Walker River group that night. On Thursday evening two Indians informed Sheriff Michael J. Cody that they had seen blood spots in Tai's place. Accompanied by a large number of Indians and townsmen, the sheriff entered the little room (simply furnished with bed, small table, and box stove)

COURTESY NATIONAL ANTHROPOLOGICAL ARCHIVES SMITHSONIAN INSTITUTION

where Tai admitted playing cards with Poker Tom on the night of the Indian's disappearance. Here the sheriff uncovered blood stains beneath the new wrapping paper pasted on the wall and also found a bullet hole. Fainter rusty stains, evidently much scrubbed, could be observed on the floor. In the face of these new developments, the breach between the Indian bands immediately closed.

THE LAST DREADFUL PIECE OF EVIDENCE SURFACED on Saturday when an Indian fisherman found a portion of a butchered human torso in the Walker River eight miles from town. No further remains were discovered, and a ghastly suspicion began to take shape in the minds of the Indians. Tom Sharp, who later told his story to my father, George Springmeyer, remembered a spring day when Tai had announced that he was going to hold a "big feed" for all his Indian customers. Curious about this uncharacteristically generous gesture on Tai's part, Tom Sharp had sauntered into Tai's restaurant on the day of the free banquet and had seen the Indians seated at two long wooden tables eating steak. "How's the steak?" he asked. "Damn tough," grunted one of the Indians. "Damn tough," chorused all the others after him.

A good many in Bridgeport would dispute that. According to the usual story, the main dish at Tai's free banquet was a strangely sweet-tasting stew that Tai had called "pickled goat," an account supported by the medical examiner's observation that the torso from the river had been pickled. Whether steak or stew, the growing conviction that Poker Tom was the source of Tai's feast roused the Indians to a murderous frenzy.

Saturday night Tai sought the protection of the jail, where several volunteers guarded him. The tiny jail behind Bridgeport's ornate, white Victorian courthouse was solidly built of stones, some of them great blocks, others small enough to fit in the palm of the hand. But even these massive masonry walls afforded the panic-stricken Chinese no more than brief security. Outside the jail, the Indians stretched out hand-to-hand in a human chain. They wanted to be certain their quarry was not taken from them under cover of darkness.

By Saturday, the fourth day after the first group of Paiutes arrived in Bridgeport, Sheriff Cody faced a serious dilemma. He had won their confidence and had dissuaded them from kidnapping Tai on the first night, but he knew he could not dissuade them much longer. Their position was simple, and talk about the demands of law could not alter it a whit. They had turned two Indian murderers over to law officers in recent times; now, they said, it was the whites' turn to give Poker Tom's murderer to them. And Tai was no ordinary killer, in view of the grisly big feed. If the whites refused, the Indians vowed to burn Bridgeport and massacre the inhabitants, including the sheriff's wife and children.

No army troops were stationed in the vicinity. The sheriff might have succeeded in sending a rider out for aid, but it was unlikely that enough men to resist the Indians could have been speedily gathered from this vast and sparsely populated region, and any hostile movement on the part of the settlers might well have precipitated the threatened massacre. Cody must have asked himself whether the life of one Chinese of very doubtful reputation, or even the rule of law in the Big Meadows region, was worth so much.

The speed of the legal process showed that officials were not disposed to linger over formalities under the circumstances. The inquest was held on Sunday, a most unusual occurrence. After jurors examined the evidence in the store, Tai testified that he had never seen the torso before. He claimed Poker Tom had left his place at 9:00 P.M., though Tai admitted playing poker with him on the fatal night. Frank Hanson and M. P. Hays testified that they had heard Tai confess to killing Poker Tom. They said the Chinese claimed that a struggle had developed when the Indian refused to leave without the fifty-four dollars he had lost during the game. Tai had struck Poker Tom over the head with a club several times in self-defense, causing Tom's death. After casting the dismembered body into the river, Tai had attempted to sell his stock of goods to Hays so he could leave town immediately, but Hays had declined to purchase them under the circumstances. At the close of this testimony by Hanson and Hays, the coroner's jury charged Tai with murder.

Few people, the Bridgeport *Chronicle-Union* later noted tersely, would "desire a repetition" of the period that followed. Tai remained in jail. Many families fled Bridgeport; others gathered together for refuge in the Leavitt Hotel, while a heavy wind moaned in the darkness outside. The Indians began laying fifty or sixty fires, ready for lighting, beside Bridgeport homes. When Sheriff Cody's wife encountered Liza Charlie, an Indian servant of many years whom she regarded as her friend, Mrs. Cody asked Liza if she really intended to burn down the Cody home. "No, I no burn down *your* house," Liza reassured her with a pleasant smile. "I burn down 'nother woman's house."

Tai's preliminary examination began in the red-brick Severe building across Main Street from Leavitt House on Tuesday, June 9, just two days after the inquest. Bystanders were excluded from the courtroom. On the previous day, Tai had succeeded in engaging Bridgeport's leading attorneys for his defense, William O. Parker and Judge John C. Murphey. He might, as it turned out, have saved himself the trouble. His real judge was not the man with the gavel, Thomas Fales. His real judges were outside, waiting at the windows, guarding the front and rear of the building with horses saddled and ready, and they had already condemned him to death in Indian court. Squads of Indians were posted at intervals along Main Street, with further reserves standing by in the encampment on the bluff beyond the river.

HAYS TESTIFIED MUCH AS BEFORE, ADDING THAT fear of the Indians had prevented Tai from informing the sheriff of Poker Tom's demise. Tai had told him that he wouldn't kill his patrons for their money because that was no way to run a business. Dr. T. A. Keables, the medical examiner, then declared on the stand that the torso's condition had been too poor to determine its identity or sex. After Tai's

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Traditionally, Paiutes loved to gamble. As these Paiute men demonstrated, they added the white man's custom of gambling at cards to their own games of chance. This affection for lady luck led to the tragedies at Bridgeport in 1891.

woman friend and another Indian gave testimony of little consequence, Tai's attorneys moved for their client's discharge on the grounds that no evidence of murder had been produced and the remains could not be identified. Judge Fales ordered Tai discharged for lack of evidence, a curious result from the juristic standpoint but not from that of the frightened townspeople.

Suddenly Tai was free, the last thing he wanted. He refused to leave the courtroom and offered five dollars a day—very good wages in 1891—to every man who would join a posse to protect him. Attorney Murphey went out to look for Sheriff Cody in the hope that Tai might be temporarily returned to jail. Cody's absence from the scene at this critical point leaves little doubt concerning the decision he had reached. Four Indians stepped quietly inside. When one seized Tai by the wrist, the terrified Chinese clutched at Parker with a death grip, begging the attorney to save him. Strong, dark hands swiftly disentangled him. Judge Fales pled with the intruders to do nothing in the courtroom and was curtly told to keep still. The long silence among the watchers in the street gave way to a chorus of wild whooping as the Indians hustled Tai up the street to a field beyond the courthouse. For what seemed to the people of Bridgeport an interminably long time, the Indians tortured Tai by gradual dismemberment, which they had decided was an appropriate punishment for his crimes. Some women fainted at the sound of his screams. Men stood helplessly with their guns in their hands, sickened by Tai's prolonged agony, yet unable to save him from the howling Paiute mob.

The aftermath was surprisingly calm and filled with attempts at self-justification that not infrequently follow a lynching. The Indians buried Tai's remains at Dr. Keables's request. Sheriff Cody made a well-timed reappearance after all was over and asked the Indians to leave town before nightfall. Although they moved their camp two miles down the river, another night passed before they rode away, one

COURTESY NEVADA HISTORICAL SOCIETY (EASTERN CALIFORNIA MUSEUM)

Ah Quong Tai operated the gambling house in Bridgeport that was a favorite haunt of the Paiutes. The grisly crime attributed to him brought the threat of massacre to all Bridgeport residents.

whipping his horse homeward with Tai's long queue. The incident brought renewed agitation for posting a military unit in the region, but public fears eventually subsided.

To prove that Tai was indeed the "almond-eyed fiend" the San Francisco *Examiner* had luridly depicted and thus deserved his awful death, the Bridgeport newspaper printed rumors concerning previous murders by Tai, his opium sales to Indians, and his alleged plans to form a gang of thieves. Bridgeporters claimed Tai was an American, born in Marysville, which relieved them from paying an indemnity for his life to the Chinese companies. However, Tai had at least one white sympathizer, who wrote to Colonel Bee, the Chinese consul in San Francisco, "It is well known that a conspiracy was formed to have the defendant discharged on examination and turned over to the tender mercies of a large band of Indians." Although an investigator dispatched to Bridgeport by the United States District Court criticized the townspeople for failing to defend Tai, the Chinese consul's expressed hope that both "savages" and Bridgeport officials would be brought to justice predictably evaporated.

The Indians submitted once more to their agents' efforts to "civilize" them and reverted to their previous roles as ranch hands and compliant servants. Bridgeport, having been spared the Indian torch, still stands intact today, much as it was in 1891, but a large part of the story has died with the people who lived it. Beyond the unresolved issues of Tai's guilt and the alleged agreement to leave him to the Indians after hastening through the legal forms, a larger mystery remains. We may never fully understand why the Indians, among whom murder by someone outside the tribe was hardly an unknown occurrence, rose in such uncontrollable fury to avenge this particular crime. Colonel Bee's Bridgeport correspondent clearly believed that they knew a "Celestial," to use the contemporary term, was always fair game.

A STRONG ARGUMENT COULD WELL BE MADE THAT IT was not the murder but the big feed that set Tai's crime apart from any other in the minds of the Indians. Yet their fierce response may also have had something to do with the year 1891 and what it meant to the Paiute. This was the time of the promised millennium, the spring when Wovoka, the Paiute Ghost Dance messiah, who lived hard by the Walker River Reservation, had promised that the grass would grow long and lush once more, that dead warriors of all the battles lost and won would return to life, that old would grow young, and Numi'na, the spirit captain, would destroy the white men and restore the world to the Indian. They had long chanted the sacred songs and danced in shuffling circles as Wovoka said they must to bring the eagerly awaited day. But in December 1890, the Sioux had been slaughtered at Wounded Knee, wearing the Ghost Dance shirts they had believed would shield them from the white man's bullets. Winter passed, spring waned toward summer, and none of the Ghost Dance messiah's promises had come to pass.

Perhaps the grief and disappointed hopes of that failed millennium had come to center on Ah Quong Tai. The grass stayed scanty, the dead slept in their graves, the whites still owned the world, and the Indians were powerless to change these things. But this last and grisliest outrage against them was more than they could endure. So they gathered and darkened the land with the threat of massacre to right just one injustice in their own way, by their own laws. Years later an aged Indian whose family had smoked the peace pipe with the earliest pioneers told Sheriff Cody's daughter, Ella: "Most time Indians and white man had no trouble in Bridgeport Valley. But one time all white men came near being killed by Indians." He meant the terrible days just before the lynching of Ah Quong Tai.

BIBLIOGRAPHIC NOTE

The primary souces on these events are the old newspapers, especially the Bridgeport *Chronicle-Union* and the San Francisco *Examiner*. Much valuable material also appears in *The Story of Early Mono County*, by Sheriff Cody's daughter, Ella M. Cain (1961), and "The Bridgeport Murders," by Phillip I. Earl, *Nevada* magazine, 37 (Fall, 1977).

Sally Zanjani *is the author of* The Unspiked Rail: Memoir of a Nevada Rebel *and is a previous contributor to* AMERICAN WEST.

Hidden Inns & Lost Trails

PHOTO BY THE AUTHOR

Steamboat Inn on the North Umpqua

by Joseph Conlin

Oregon Route 138 climbs slowly into the mountains, skirting the North Umpqua River as casually as the river is frantic in tumbling on its way to the Pacific. It is a glorious drive because the North Umpqua is a magnificent, cold, clear torrent, and the forest that climbs the cliffs on each side, commercially catalogued as Douglas fir, is actually the jumbled variety of hundreds of species that makes this part of the Cascades a botanist's wonderland.

Because the road is so beautiful, motorists may be excused for not noticing Steamboat Inn, an undistinguished single-story structure about forty miles east of Roseburg. Steamboat looks like every other roadhouse where you make a quick stop when you need a cheeseburger, a fresh six-pack, or replacements for tackle lost in the very difficult—which is to say, for fly fishermen, the very good—North Umpqua.

Fly angling for steelhead trout is the reason Steamboat Inn is here. It sits precisely halfway along a thirty-one mile stretch of whitewater reserved for fly fishing only—and fanatics of that persuasion from Aberdeen to Auckland know very well that Steamboat Inn is not so ordinary as it seems. Regulars from all over the world run annually to the North Umpqua, just behind the trout, as they have been doing since the turn of the century. Zane Grey spent much of every summer here in the 1930s, leasing a Forest Service camp not far from the site of the Inn. In 1954 Clarence Gordon, another expert fly fisherman, built Steamboat Inn for others like him. (The name comes from an old gold-camp fraud: when a speculator sold a worthless claim under false pretenses, he "steamboated" down the river.)

Between 1957 and 1975, Frank and Jeanne Moore ran the place and established the tradition that is the second reason for Steamboat's fame—very, very fine eating. The Moores dished up hearty fare: cauldrons of thick soup; great platters of ham, steaks, and pork chops; bowls heaped with fresh vegetables; apple and berry pies bursting their crusts—the kind of meals for which logging camps were once fabled. Old-timers on the North Umpqua will still snip a length of leader with their teeth and declare that the meals were as good as a tired fisherman ever forgot his rotten luck over.

Taking over Steamboat in 1975, Sharon Van Loan created a kitchen that has been recognized time and again as one of Oregon's half-dozen best. Steamboat's gastronomical reputation is earned after five o'clock when the "Closed" sign fills the window facing Highway 138. Then the twenty-foot-long table, sawn from a single six-inch slab of sugar pine, is decorated with as many elegant place settings as reservations made by cabin guests and savvy fishermen camping nearby. Reservations are a must for the Fisherman's Dinner, so-called because when the steelhead are running, the hors d'oeuvres are set out half an hour after sunset. The food is not the sort that can be kept simmering in a pot for walk-ins. Sharon Van Loan and Pat Lee (who doubles as a guide on the river for first-comers) have been preparing it since dinner was served the previous evening. The meal might be built around Chicken Breasts with Prosciutto and Fontina, Paella, Tournedos Medoc, Pork Loin with Sour Cream Sauce, or *(cuisine steamboatoise)* Lamb and Spinach with Phyllo. There will be a soup, vegetables, bread, and dessert educated to keep up with such gracious company. A good house wine is included in the fixed price although Steamboat also maintains a cellar that is home to, among other aristocrats, Chateau Lafite and Chateau d'Yquem.

This is a "fisherman's dinner"? Not really. Steamboat attracts plenty of people who do not know a hook from a hatchet but know that they can revive fagged bodies (and build up an appetite) hiking the innumerable trails in the Umpqua National Forest and swimming or rafting the fifty miles of Canton and Steamboat creeks (not the North Umpqua, please—the anglers were here first). Others, like weary wordsmiths, revive fagged spirits in the solitude of Steamboat's comfortable modern cabins. These are so secluded on the banks of the river below the lodge that one longtime dinner guest told Jim Van Loan he never knew the cabins were there until the man who passed him his third helping of Pressed Duck mentioned he was staying in one.

The Van Loans' motto is "You are a stranger here but once." Prices are moderate, about $40 for a cabin and $16.50 for the Fisherman's Dinner. Guests enter their expenditures in "the book" that is kept near the cash register and pay when they leave. During the winter, meals are served to non-guests only on weekends. For information, write Jim Van Loan, Box 36, Toketee Route, Idleyld Park, Oregon 97447, or phone (503) 496-3495 or 498-2411.

Joseph Conlin *frequently writes about Western subjects. His last article in* AMERICAN WEST *was "Goldfield High-Grade," May/June 1983.*

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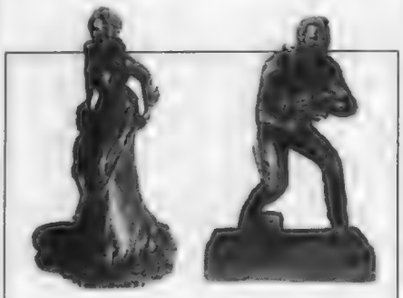

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Letters to the Editor

River Rafting

Two items in the March/April issue of AMERICAN WEST particularly caught my eye, since both concern southwestern Colorado to some extent.

In the feature "A Summer's Rafting on Rivers of the Great Divide," page 35, the San Juan River is referred to as "the river of ghosts." I think perhaps the San Juan was confused with the Animas River, for which the complete name in Spanish means "River of Lost Souls."

The Western Lookout feature had a section about a mountain in Colorado's San Juan range being named for Olga Little, who operated pack trains in southwestern Colorado for several years. If I'm not mistaken, Olga Little used burros rather than mules in her freighting activities. At the Spanish Trails Fiesta, held yearly in Durango, she always headed a string of pack burros in the parade. Olga was an expert at arranging the load on each individual animal, insuring safety for both freight and beast of burden.

In later years Olga and her husband Bill operated a rock shop up La Plata Canyon near the base of La Plata Mountains west of Durango.

Mrs. C. D. Stevenson
Commerce City, Colorado

As a brand new subscriber to your magazine, I was delighted with an article in your March/April 1984 issue. Peter Skafte's "Rubber Rafting Western Rivers—Yesterday and Today" caught my eye immediately because of the caption on page 26 accompanying the excellent picture of the running of Marble Creek rapid. The caption contains reference to John Charles Frémont and his party rafting on the North Platte in 1842.

I am currently reading *Dream West* by David Nevin. An early chapter of the book called "Rapids" contains a very exciting description of Frémont's rubber rafting experience of 1842. I certainly appreciated your map on page 32 depicting Frémont's route for this journey in its modern context.

Thanks again for your very timely raft article. I am beginning to feel like a child anticipating Christmas in my wait for your next issue.

T. H. Garretson
Houston, Texas

Stegner on Wister

I am writing in protest against a remark made by Wallace Stegner concerning Owen Wister in the January/February issue of your magazine. In the article which you call "A critical essay" Mr. Stegner says that Wister "created an undying myth of the West and Western character, and when he had done it, abandoned the West and spent the rest of his life writing trivia that no one now reads."

I grant that Wister did write a good deal of trivia after he stopped writing about the West, but I wonder at Stegner if he includes the trilogy "The Pentecost of Calamity," "A Straight Deal," and "Neighbors Henceforth" in this statement. What I really wonder is whether he has read them.

These, written soon after World War I (the last one, "Neighbors Henceforth," came out in 1922), are a mixture of reporting and philosophy and have much of value in them. . . . This is trivia, Mr. Stegner?

Grace Bartlett
Joseph, Oregon

Wilder's Little Houses

I thank and applaud you for your interesting article on Laura Ingalls Wilder in the May/June issue of AMERICAN WEST. I have been enjoying her stories of pioneer life for many years, and reading your article "It Is Better Farther On" gave me added insight into her life. I'm pleased to see that there are still people like William T. Anderson who appreciate and value the nostalgia left by the early Americans.

I would like to have met Mrs. Wilder, but reading your article was the next best thing.

Carole Nantz
Garden City, Michigan

I am a comparative newcomer to the realm of AMERICAN WEST magazine. I *love* it.

A lady whom I met quite a number of years ago is related to the Wisconsin branch of the Ingalls family. She told me that the home on "Little House on the Prairie" was far more glamorous than the original. They were poor.

Dorothy Kundert
Monroe, Wisconsin

Marshal Wyatt Earp

I enjoy reading your magazine every time it comes out. However, I don't approve too

highly of the sort of degrading way your history stories reveal our heroes. See "Wyatt Earp Goes to Hollywood," May/June 1984. While I don't deny that some of it may well be true, there have always been people who cannot see the character of a person the same way.

I believe if you were to look at law enforcement officers of yesteryear and today, you would find at least seventy-five percent more are crooked today than yesteryear. Your basic law enforcement officer was a more honest individual in those days, than today.

Charles Whittaker
Lancing, Tennessee

Chief Joseph's Trail

I enjoyed James P. Jackson's interesting account of backpacking "On the Trail of Chief Joseph" in the May/June 1984 issue. However, I would have enjoyed it a lot more if Mr. Jackson had done his homework more carefully. If he had, he would have known that the word "squaw" is no longer an acceptable noun when referring to Indian women.

Janet G. Wilson
Eau Claire, Wisconsin

In your "Hidden Inns & Lost Trails" column for May/June 1984, you present yet another Chief Joseph tale, this one by James P. Jackson. Jackson states that the Nez Perce "escaped eastward" and fled towards Canada "under the leadership of Chief Joseph." I had thought that our historians had successfully dealt with the canard of Joseph's being the chief of either the tribe or only of the people who made the trip. Joseph was not the leader of the tribe or of the "epic flight." Looking Glass and White Bird were far higher on the political scale, and modern scholarship seems to indicate that Joseph may have been in charge only of the women and children whilst on the flight. The worn-out claim that Joseph was chief of the tribe or of the "epic flight" should not be repeated in a history magazine or anywhere else!

Robert G. Schipf
Missoula, Montana

Technically, Professor Schipf is correct. Joseph was the civil leader of the Wallowa band, one of those involved in the Nez Perce War.—Ed.

(Continued on page 65)

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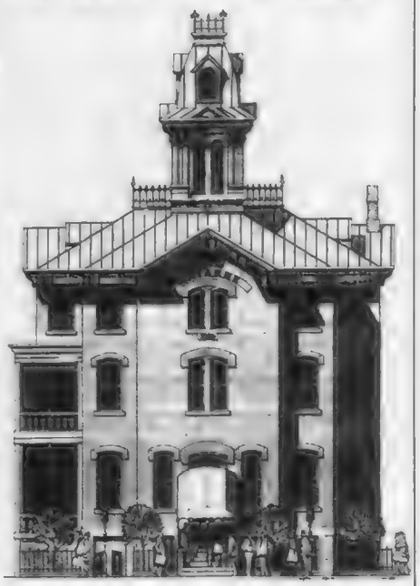

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Western Art Notes

MORRIS ENGEL. . SHIRLEY RYLANDER CURLING HER HAIR IN FRONT OF MIRROR. COURTESY AMON CARTER MUSEUM, FORT WORTH, TEXAS

Three Documentary Photographers

The works of three documentary photographers are currently on exhibit at the Amon Carter Museum in Fort Worth, Texas. Marion Post Wolcott, Morris Engel, and Robert Frank did not merely record the world around them; each sought to express a particular view of his chosen subject. An essay on the Ray Rylander family, originally produced by Morris Engel for a 1949 *Ladies Home Journal* article, explores everyday life in a small Texas town. Selections from the work of Robert Frank, known for his ironic depictions in *The Americans*, show cowboys attending the annual rodeo at Madison Square Garden in 1955. Taken for the Farm Security Administration during the Depression years, photographs by Marion Post Wolcott present a compassionate view of rural America.

"Views of a Vanishing Frontier," a traveling exhibit organized by the Joslyn Art Museum in Omaha, Nebraska (see Art Notes, AMERICAN WEST, March/April 1984), can also be seen at the Amon Carter Museum through July 29.

Ray Rector: Cowboy Photographer. Rector photographed the range cowboy of the early 1900s and the last years of the cattle kingdom. His work will be on view through July 29 at the University of Texas Institute of Texan Cultures, San Antonio.

Soft Gold. Fine paintings, drawings, and maps of the eighteenth and nineteenth centuries, as well as many striking, rarely seen objects of trade from the Northwest Coast Indians, will be on display at the Oakland Museum in California through September 4. This exhibit was organized by the Oregon Historical Society from their own collections and with loans from the Peabody Museum of Harvard University.

Mathew Brady Photographs—nineteenth-century portraits from the National Portrait Gallery—will be shown at the Western Heritage Museum in Omaha, Nebraska, from June 16 through July 15.

Four Painters from Aocaca, an exhibition sponsored by the Instituto Cultural Mexicano, contains personal interpretations of Mexican folklore and myths by four members of the Rufino Tamayo workshop. These works will be on view at the Tucson Museum of Art in Tucson, Arizona, concurrently with the Ninth International Miniature Print Exhibit from June 17 through August 1. The Pratt Institute's small print exhibit includes 161 prints, none larger than four inches square, from fifteen countries. (Magnifying glasses will be made available for inspections.)

Doors are open at the Fresno Metropolitan Museum in Fresno, California. Its inaugural show, "Portraits of Objects," includes nearly sixty European and American still-life and trompe-l'oeil paintings dating from 1638 to 1904. These pieces from the museum's collection will be on permanent display. Through July one can also see "The Stone of Perfection: 4000 Years of Chinese Jade," the first foreign showing of a traveling exhibition from the Republic of China's National Museum of History.

Still Life. Actress Diane Keaton with Marvin Heiferman, a New York photographer and art dealer, organized the exhibition "Still

Life"—sixty-two 20″ × 24″ Cibachrome prints of Hollywood production stills and outtakes of celebrities. Works selected, mainly from movies made between 1940 and 1969, were chosen for their visual and emotional impact as well as their cultural and historical value. They will hang in the Minneapolis Institute of Art from July 14 to September 2.

Cowboy Genius. Selected works on canvas and paper from the C. M. Russell Museum in Great Falls, Montana, will be on view at the Museum of Western Art in Denver through July 22. From July 25 through September 5 the Museum will display "Frederic Remington's Prints of the West: The Harold McCracken Collection."

Star Gods of the Ancient Americas. An exhibit concerning the unity of art, religion, astronomy, and seasonal cycles in ancient American thought will continue at the Houston Museum of Natural Science through September 15.

Edward Weston in Mexico will be showing at the Center for Creative Photography in Tucson, Arizona, from August 19 through September 12. These photos, a major exhibition put together by the San Francisco Museum of Modern Art, focus on Weston's work in Mexico between 1923 and 1926.

Barbed wire will be the subject of an exhibit at the Panhandle Plains Historical Museum in Canyon, Texas, from August 9 through November 18, honoring the Texas Barbed Wire Association's annual convention in Amarillo this year.

The Museum of Art of the American West went from concept to design to funding to building in twelve months. Last March, Houston's new art museum opened with a selection of nineteenth-century masterpieces on loan from the Buffalo Bill Historical Center in Cody, Wyoming. Between June 11 and July 31 MAAW will mount "Western Landscapes"—contemporary works ranging from abstraction to meticulous realism, quite a contrast to the grand landscapes of the nineteenth-century myth-makers in MAAW's initial exhibit. MAAW's rotating schedule will include two major shows and four smaller ones each year, with a major exhibit on the Taos founders scheduled for this fall.

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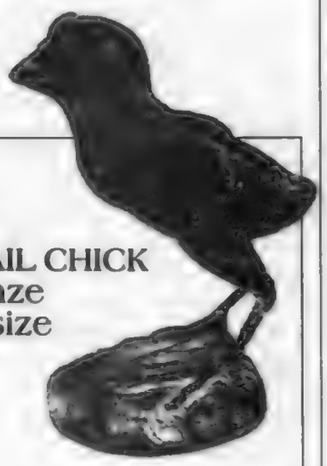

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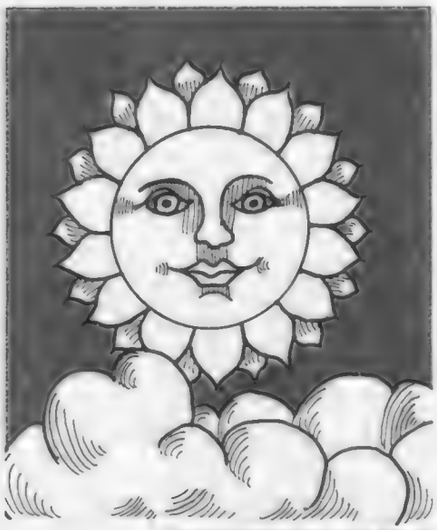
There are substantial differences between some aspects of a Senate-passed version of the bill and the House version, but Deborah Sliz, counsel for the House Subcommittee on Energy and Environment, says, "The heart of the Hoover settlement is the same in both bills." Legislators hope to reconcile the differences in a House-Senate conference before this session ends.



DRAWN FOR AMERICAN WEST BY LYNN SAKELLAR

Solar access. A survey taken this year in Ashland, Oregon, showed that seventy-five percent of its residents approve of the town's model solar-access law. This ordinance, the first of its kind in Oregon, protects a homeowner's right to sunlight falling on existing homes, and in new developments prohibits construction that would block more than a prescribed minimum of a neighbor's access to the sun's beneficial rays. During the winter months shadows cast onto an adjacent property between 10:00 A.M. and 2:00 P.M. must not be more than those cast by a six-foot fence on the property line.

Local builders who were polled on the nearly four-year-old ordinance were also supportive of the law. When asked to give the cost of estimating shadow fall, most replied something between nothing and $50, although at least one estimate came in at $3,000. Shadow fall can be easily measured by a solar-site selector—a stock unit that can be mounted onto a camera—or shadows can be calculated with a computer program called Sundial, designed by Ashland's city planning director, John Fregonese.

In this solar-conscious community of 15,300, Fregonese explains, enough sun shines between Oregon's cloudy days to make solar energy pay. He says "the value of sunlight goes beyond solar collectors." In the winter, solar radiation falling on a standard, nonsolar house will double the insulation factor from R-19 to R-39. Other states—like New Mexico, Idaho, and Washington—have solar-access laws, but the Ashland ordinance is notable because it is so comprehensive. That is why it is being used as a model for cities and states around the country.

The Institute of the American West—whose mandate is public education—is sponsoring a number of interesting affairs this summer. An impressive company of Pulitzer Prize winners, conservationists, and parkland authorities from across the country will come together in Sun Valley, Idaho, on August 15 through 18. Here they will present and discuss the values represented in the establishment of parks in the West as well as values and ethics in land reservation for today and tomorrow. A tabloid of articles by presenters, which will be mailed in advance to all employees of the National Park Service, will be available in April so that the public may participate more fully in discussions. The free conference, Parks in the West and American Culture, is co-sponsored by the Lincoln Institute of Land Policy.

The Institute calls attention to a teachers' conference on folklore in the classroom coinciding with the seventh annual Northern Rockies Folk Festival in Hailey, Idaho. Workshops emphasizing oral traditions by guest folklorists begin July 25. Performances by Idaho folk artists and prominent folk musicians on July 27 and 28 will provide numerous demonstrations.

Lastly, cowboy poetry is in demand at the Institute of the American West, where they are conducting a wide survey with fellowships in fifteen states preparatory to a gathering on the subject in Elko, Nevada, next January. Field work will continue through this summer; so if you are a cowboy poet (or if you know of one) get in touch with Hal Cannon, Director of Regional Folklife at the Institute. For information on the Parks conference; Richard Hart, IAW, P.O. Box 656, Sun Valley, Idaho 83353. For general information; (208) 622-9371.

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PHOTO BY STEPHEN M. VOYNICK

Mine Drilling Contests

Here are men to match our mountains—hard-rock mountains that hide fortunes in treasured metals. To gouge out those metals, hard-rock miners need strength, stamina, accuracy, and coordination. For a century they have regularly displayed their muscle and skill in drilling contests in Leadville, famed silver town high in the Colorado Rockies, home of Baby Doe Tabor and the Unsinkable Molly Brown.

At a corner in downtown Leadville on July 5, 1901, a double-jacking team of expert hand steelers sought fame and cash prizes as they performed before a crowd of 3,000. One miner held the drill steel while the other swung an eight-pound sledge, careful to hit the steel on the head and not his partner's hand. A miner's wife summed up the appeal of the competitions: "Drilling contests have everything—technique, beauty, endurance, speed, and danger."

Today, annual drilling contests are still held in many mountain towns in Colorado, open to both old and new drilling methods. Some modern miners seek out old-timers to learn about the technique of hand-steeling. One retired miner who can instruct from experience is eighty-three-year-old Mike Martinez who used hand steels in small mines during the World War I period and participated in some early contests. He still enjoys the competitions because: "Nothing has changed. There's no fancy rules. You got the rock, you got your hammer and steels, and you got your muscle. You can do it or you can't."

At the 1983 contest in Leadville, a brawny competitor showed his skill in handling a modern, mechanical, pneumatic rock drill. Weighing about 130 pounds, these drills are dangerous in the hands of an inexperienced operator. Machine drillers can go through six feet of solid granite in about two and one-half minutes; the best hand steelers can do eight inches in about five minutes.

Each summer, drilling contests are held in the historic Colorado mountain towns of Idaho Springs, Cripple Creek, Nederland, Silverton, Creede, and Leadville. Winners go to the State Championship Meet in September at Grand Junction. **All these contests are free to the public. For information about statewide drilling contests and schedules, write to the Leadville Chamber of Commerce, Leadville, Colorado 80461.**

Stephen M. Voynick of Leadville sent us the photographs and information about this fascinating piece of Western Lore. He knows his subject, since before becoming a full-time writer, he "spent three, long, hard years hanging on drills in the underground metal mines of Colorado, Arizona, and Wyoming."

AMERICAN WEST offers twenty-five dollars to any reader whose suggestion is accepted for publication in Western Lore. We seek information (with relevant pictures, if possible) about unusual artifacts, unusual and little-known happenings, unusual and little-known people, as well as little-known facts about well-known people—all in Western history. What do you have? Space is limited; so, we have to be selective. We'll take good care of your pictures and return them promptly. Be sure to pack pictures carefully and enclose a stamped, self-addressed envelope for their return. Send submissions to AMERICAN WEST, Western Lore, 3033 N. Campbell Avenue, Tucson, Arizona 85719.

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In our September/October issue, we bring you our **Fall and Winter Travel Calendar**, a selection of fascinating places to visit and things to do in our wonderful West.

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Letters *(Continued from page 59)*

Mystery Stone

In regard to the "Mystery Stone," discussed in the Letters to the Editor of the May/June issue: I may have a possible explanation for you. Here in the Pacific Northwest the standard procedure seemed to be: when the Indian owner of a stone bowl passed away, a hole was pecked through from the bottom side to release the spirit of the bowl. This then was called a "killed bowl." I have one, and it looks exactly like yours.

I do enjoy your magazine very much.

O. A. De Mars
Portland, Oregon

Angel Island

I read with interest and pleasure your article "The Secret Hell of Angel Island." I would be most interested in finding out more on the subject, especially about Mr. Paul Chow's efforts to build a museum at Angel Island State Park.

The article is remarkable, as are the story and people it describes. The people of the eastern United States know only about Ellis Island; obviously, this country's immigration story is far more complex and truly continent-spanning.

Ralph M. Sherman
Newton Centre, Massachusetts

Frances D'Emilio's article "The Secret Hell of Angel Island" opened a Pandora's box of childhood memories. My father was in the Immigration Service, stationed there from 1927 until 1931. As a special treat my mother would occasionally take my sister and me on the government cutter to the Island, to accompany our father home. Exciting as these trips were to a four-year-old, I came to *dread* them. I shall never forget the impact, on our first trip, of a cage—a wired enclosure—full of desperate-looking Chinese. My father, now ninety-five years old, still vividly remembers the trials of his Angel Island days—a *tough* assignment.

Nona Litchfield
El Cajon, California

AMERICAN WEST welcomes letters from its readers. Some editing of letters may be necessary in order to print a cross section of those we receive. Please address: Letters to the Editor, AMERICAN WEST, 3033 N. Campbell Ave., Tucson, Ariz. 85719.

CREATORS OF PLAINS INDIAN ART AND ARTIFACTS

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Western Snapshots Today

PHOTO BY F. RAY WALKER

A number of months ago AMERICAN WEST's editor/publisher Tom Pew was tooling along Interstate Highway 25 in southwestern New Mexico when he came upon this unusual sight—a colorful mural on the curved surface of a large water storage tank. This dramatic portrayal makes the connection between present and past that AMERICAN WEST applauds.

The story of the decorated tank began in 1972 when the Chamber of Commerce of Las Cruces, New Mexico, decided to dress up the town's water storage tank. The Chamber raised $2,500 and arranged for artist Tony Pennock, then a freshman at New Mexico State University, to transform the unattractive tank into a work of art that depicted an event in New Mexico history.

Pennock chose to portray the journey of Don Juan de Oñate through this area in 1598. With a contract from the Spanish king to colonize the upper valley of the Rio Grande River and to assist Franciscans in converting the Pueblo Indians, Oñate trekked north from Chihuahua in Old Mexico to what is now the state of New Mexico. Accompanying him were some 200 soldiers (many of them with their families) and eleven Franciscan friars. Oñate is known as the "founder of Spanish civilization in the Southwest," as he introduced Spanish administration and customs to this area.

Pennock and two helpers—Richard Caubel, a student at the University of Denver, and Rick Wanek, a student at Mayfield High School—washed and sanded the tank's 14,000-square-foot surface and then applied the warm sand background. Artist Pennock decided against the typical portrayal of proud Spanish conquistadors. Rather, he depicted the strength and patient endurance of members of the Oñate expedition under the adversities of the route called *Jornada del Muerto* (Journey of Death).

Some figures are on horseback; others walk and lead cattle or carry small animals. (Oñate is credited with introducing domesticated animals to this area.) All the travelers seem fatigued.

The most difficult part of the mural was drawing the outlines of the figures. This was done by using a projector at night to throw Pennock's drawings on the sides of the tank, where they could be traced and later painted. Employing earth tones, the three muralists used sixty-five gallons of paint to finish the job in seven months.

At the dedication of the mural in Feburary 1973, famed New Mexico artist Peter Hurd complimented the young painters: "I am absolutely amazed at what these young men have done. I wouldn't have known where to start or how to finish."

AMERICAN WEST offers twenty-five dollars to any photographer, amateur or professional, whose Western Snapshot Today is selected for publication on this page. Pictures portraying today's West —the land and its people—in black-and-white or color, will be accepted for consideration. Please specify the type of camera, lens, film, paper, and techniques as well as light conditions used to obtain your photograph. Prints will be handled with care and returned promptly after use. Be sure to pack the snapshots carefully and enclose a stamped, self-addressed envelope. Send submissions to AMERICAN WEST, Western Snapshots Today, 3033 N. Campbell Avenue, Tucson, Arizona 85719.

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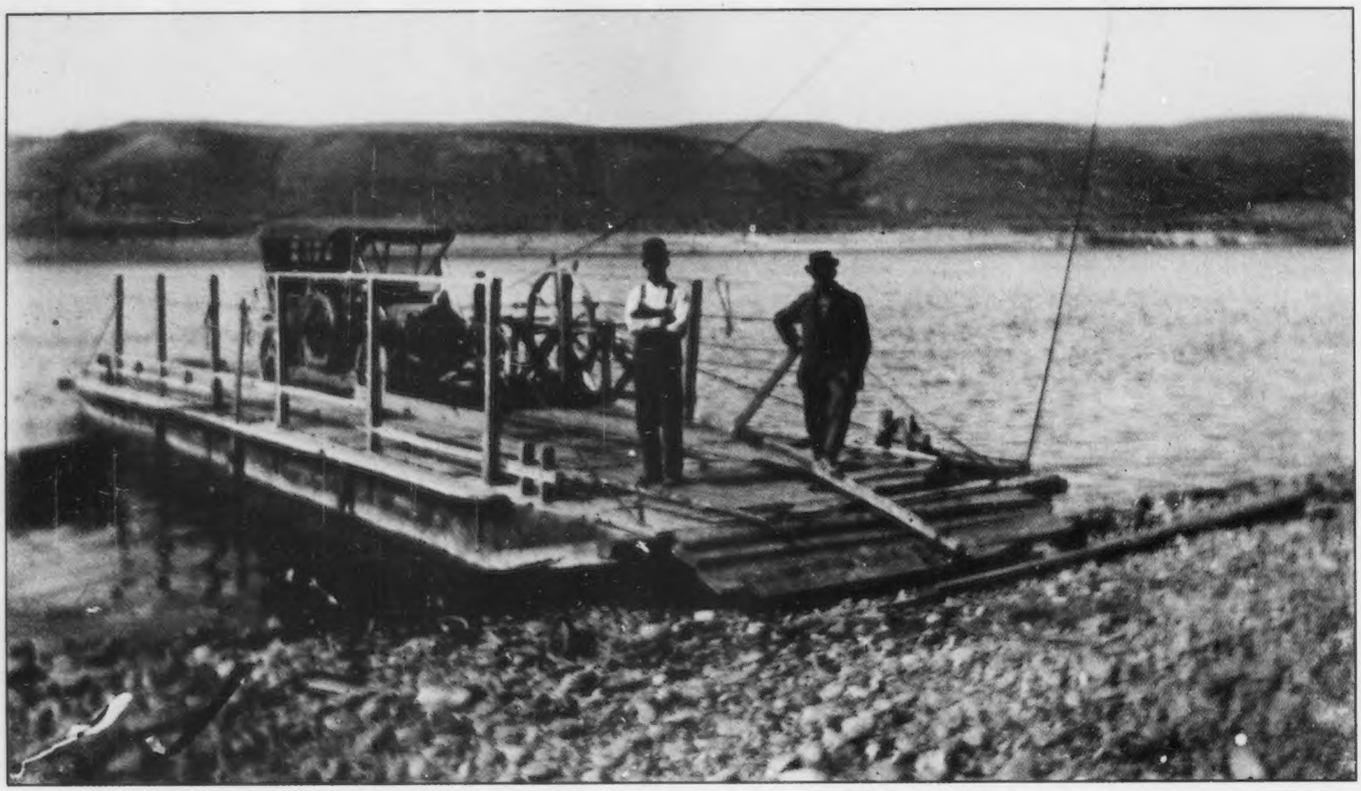
Western Snapshots Yesterday



Traveling by automobile during the early years of the twentieth century could be adventuresome. Professor Lawrence A. Ware of Iowa City, Iowa, has sent us this photograph along with some memories.

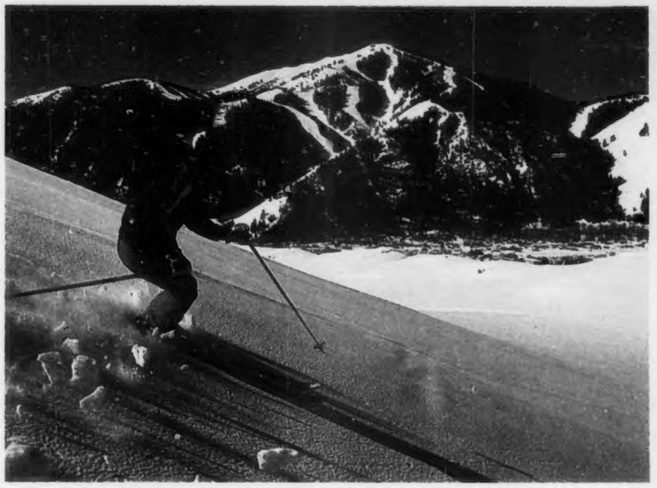
In September of 1913, Ware (then a youngster) and his father were motoring from Spokane, Washington, to Echo, Oregon, in their 1910 model Enger. They crossed the Snake River on this unusual ferry at the small village of Penawawa, north of Walla Walla in southeastern Washington. Young Ware took this snapshot of the ferry, the Enger, his father, and the ferry operator from the south bank of the Snake after they had completed their crossing.

The ferry shuttled between the banks of the river by an ingenious contraption that used the river itself for power. The photograph shows part of a cable line that ran the length of the ferry, around drums at each end, and then up to a trolley that ran on another cable that was stretched across the Snake. By turning a crank on one of the cable drums on the ferry, the operator could angle his craft in a way to use the river current to take him slowly across the river in either direction.

That evening after the ferry ride, as Ware and his father were driving toward Walla Walla in darkness, the front wheels of their car ran into two big chuckholes in the dirt road, well worn by wagons hauling the wheat harvest. When the front of the car fell into those holes, the open fly-wheel of the engine struck the ground, stopping the motor instantly. Since the clearance on the Enger was high, Ware's father could crawl under the car with an axe and hack away enough dirt to clear the fly-wheel. Then, he started the engine, backed up, detoured around the holes, and went on to Walla Walla. There, they managed to find a machine shop where they spent the night on the floor, using the car cushions for beds.

Professor Ware says that he was particularly interested in the Penawawa ferry across the Snake because some nine years previously he and his family had crossed on the same ferry in a covered wagon. In 1904 the family moved from their home near Potlatch, Idaho, to a homestead near Echo, Oregon. In addition to young Ware, his parents, his sister, and the covered wagon, the traveling troupe included one dog, one cow, and the two horses who pulled the wagon. All were transported safely and slowly across the Snake on this trusty ferry.

AMERICAN WEST offers twenty-five dollars to any reader whose Western Snapshot Yesterday is accepted for publication on this page. We seek old photographs that tell stories of bygone times. Especially welcome are pictures depicting some forgotten aspect of Western life, serious or amusing. Space is limited; so, we have to be selective. We'll take good care of your pictures and return them promptly. Be sure to pack the snapshots carefully and enclose a stamped, self-addressed envelope. Send submissions to AMERICAN WEST, Western Snapshots Yesterday, 3033 N. Campbell Avenue, Tucson, Arizona 85719.



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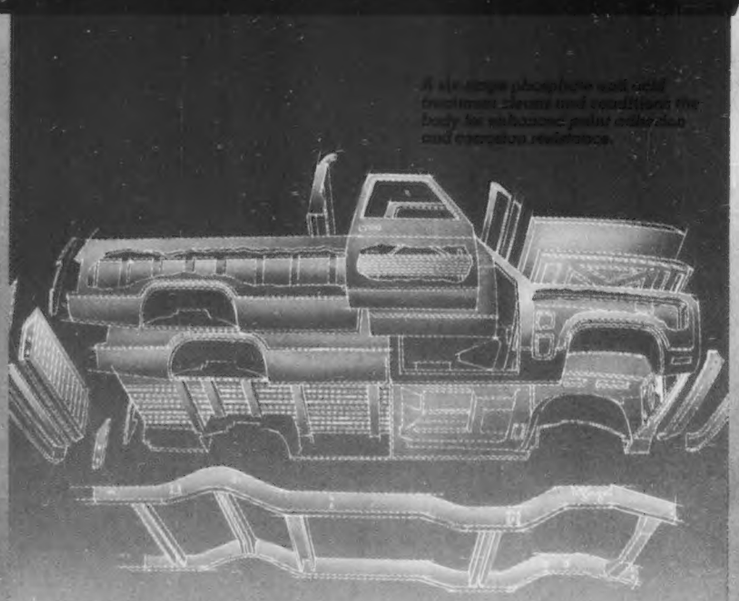

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